

MAR 14 1929



# THE MODERN HOSPITAL

Vol. XXXII

March, 1929

No. 3

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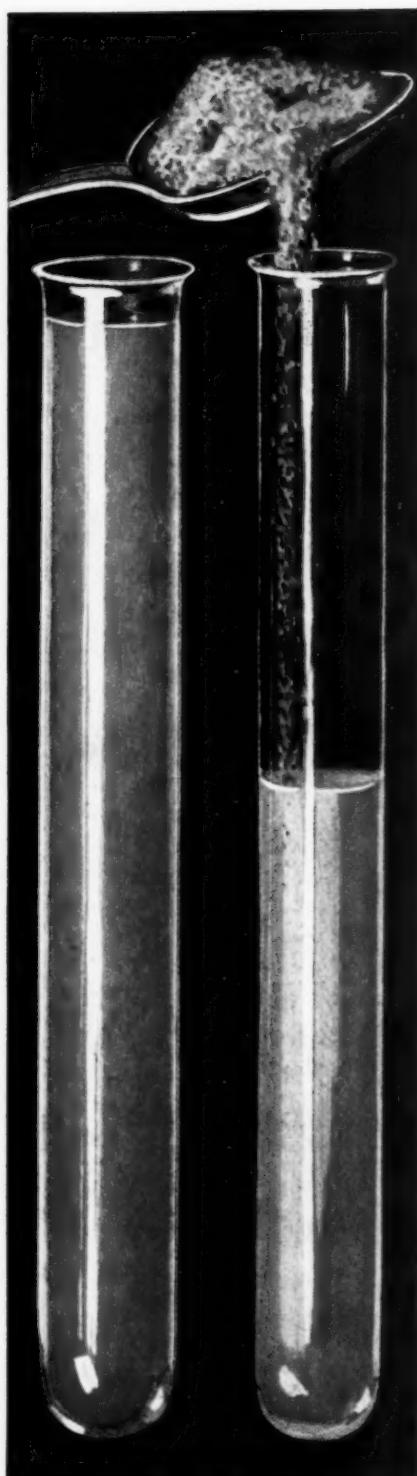
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# THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums and Allied Institutions, and to Their Medical, Surgical and Nursing Services*

Vol. XXXII

March, 1929

No. 3

## *When You Build, Consider—* The Changing Hospital World\*

By CARL A. ERIKSON

Schmidt, Garden & Erikson, Architects, Chicago

OBVIOUSLY hospitals must keep pace with medical practice. Medical practice, then, is the first gauge for measuring hospital progress and it behooves us to review the tendencies as well as the discoveries in medicine to determine, if we can, how they have affected our hospital buildings by decreasing or increasing the demands either for patient capacity or for diagnostic and therapeutic equipment.

It is difficult to evaluate the changes effected in the hospital by medical discoveries during a five-year period. The wide-spread use of insulin in the treatment of diabetes has brought many patients to the hospitals for metabolism tests and for dietary treatment. On the other hand, Dick and Schick have almost emptied the scarlet fever and diphtheria wards. Other developments may have equally important results and those who are building must be ever watchful of the trend of scientific research and its possible effect on hospital planning.

While the effect of some discoveries in medical research may be readily measured, there are others that are not so easily estimated. One of these is the reawakened interest in nonpharmaceutical therapy, such as electrotherapy, hydrotherapy, heliotherapy and similar forms of treatment, whose importance is evidenced by the space now being assigned to these departments in new hospitals.

A fifth year of medicine in the hospital is required of medical students in many states before a license is issued. Some medical schools have a

similar requirement for a degree. But hospitals receiving such interns find that besides providing living quarters for them additional space must be assigned for the laboratory, for new equipment and for additional personnel.

And how has progress in the nursing profession influenced hospital buildings? Most readily noticeable is the great increase in the educational facilities. It is clearly beyond the scope of this article to deal with the details of this change. The increasing size of schools of nursing is a necessary accompaniment of the increase in the size of hospitals. The provision of a single room for the pupil nurse is generally accepted as sound and economical practice. The graduate nurses are now receiving a consideration long denied them. The influence of the nurses in securing adequate facilities for their hospital work is noticeable in recent hospitals.

But it is not enough that the hospital keep pace with the progress in medicine and nursing, it must be economically up-to-date. Fifty years ago hospitals had few beds that were not in wards, because only the poor applied for admission. Today it is said that only the very rich and the very poor can afford hospital care. How do the new hospitals show the effect of the great increase in wealth of the last ten years? How do the new hospitals express this Ford-Chevrolet age?

First, by the absence of the large ward, now almost as obsolete as the one-horse shay. Second, by the great increase of semiprivate wards, of from two to four beds, and by a marked increase in the ratio of private rooms to wards.

These changes are reflected in the figures of

\*Read at a meeting of the Hospital Association of Illinois and the Wisconsin Hospital Association, Chicago, February 21, 1929.

thirty-five hospitals divided into three groups—those designed about 1908, those of 1918 and those of 1928.

How marked these changes have been is indicated by our answers to a questionnaire recently sent us by the American Hospital Association. While the tabulation relates only to hospitals we have designed, I believe it is indicative of the change in the kind of accommodations being offered to hospital patients. The American Hospital Association asked for information about hospitals of 1908, 1918 and 1928. This group in our practice totaled thirty-five hospitals and about 3,500 beds. The results are as follows:

*Wards of 10 Beds or Over*

In 1908, 8 per cent of all beds  
In 1918, None  
In 1928,  $\frac{1}{2}$  of 1 per cent

*Wards of 5 to 9 Beds*

In 1908, 35 per cent  
In 1918, None  
In 1928, None

*4-Bed Wards*

In 1908, None  
In 1918, 28 per cent  
In 1928, 14 per cent

*2 and 3-Bed Rooms*

In 1908,  $8\frac{1}{2}$  per cent  
In 1918, 37 per cent  
In 1928, 14 per cent

*Private Rooms*

In 1908,  $48\frac{1}{2}$  per cent  
In 1918, 35 per cent  
In 1928, 61 per cent

Further developments in the medical care of the middle class patient may be expected. The studies and final report of the Committee on the Cost of Medical Care will illumine an obscure problem in which the hospitals are intensely interested. The Julius Rosenwald Fund, Chicago, has begun a similar study in Chicago, with the expressed intention, I believe, of aiding hospitals to meet this problem, one of the most difficult problems now confronting them.

*Economical Operation Is Aim*

More stress is being placed on the economical management of the hospital, which inevitably affects the planning. We find, for instance, that nursing units of fifty semiprivate beds are no longer considered unreasonable. Accompanying these larger units is found more complete equipment for bedside care.

There is daily evidence that the hospital is learning to know the "back of the house" as does the hotel. In other words, it is being recognized that the machinery of service to the patient should

be as unobtrusive as possible, that perhaps it isn't necessary for the "Colonel's Lady" and the garbage pail to meet at the elevator.

There is manifest a better coordination of the plan and the locations of departments are carefully predetermined by the relationship of one to another. Rooms within departments, and their size, are planned with their equipment and use as the basic factors.

During the past five years hospital building has been marked by an ever increasing emphasis on the x-ray, both for diagnosis and therapy. The laboratories, likewise, have grown remarkably in importance, a reflection, of course, of the demands by the hospitals and their staffs for more and better laboratory work.

The cardiograph, ten years ago the stranger of the hospital, is to-day a usual piece of equipment in all but the smallest hospitals. And fortunately development of the portable cardiograph has made the installation of this equipment much easier and less expensive.

*Skyscraper Hospitals Increasingly Popular*

With regard to the exterior of the hospital, we find more ready acceptance of the skyscraper type of structure. The debate about the relative efficiency of the vertical *versus* the horizontal hospital has been stilled by the economics of real estate rather than by the hospital. Of course it is more generally recognized that the question in hospital planning is not merely how many stories there shall be but how smoothly can the hospital be operated. How many beds shall there be per nursing unit and how many and how large shall be the wards? What services are required?

As the hospital is gradually overcoming the burden laid upon it during the long period when it cared only for the poor, it is not surprising to find that it is now paying more attention to its internal appearance. As we have come to understand better the principles of asepsis, there is much less opposition to making rooms and wards more comfortable, more attractive and more like the rooms of the patient's own home. Carpets have appeared in de luxe private rooms. Wall paper is being introduced. A great deal of the restraint that resulted in nondescript, drab and depressing rooms has vanished or is vanishing, often under the guidance of skilled interior decorators.

Structurally the changes of the past five years are few. Perhaps the most important is the acceptance of steel to take the place of the well known forms of reinforced concrete floor construction. While concrete is still used in this form of construction, the main support of the

floor slab is a specially formed bar known as the "bar joist," or a new light weight type of rolled I-beams, known as "junior" beams. Both of these tend to reduce the cost of the hospital building.

A movement to overcome noise in the hospital was started some years ago and has spread rapidly. Quiet is produced by use of various kinds of materials that absorb sound. The rapid spread of the use of such materials is probably the greatest boon that has been offered the patient during the past decade.

Flooring materials still remain about what they were five years ago, although many new materials have been placed on the market. Well built and well laid rubber floors have proved their worth and are extensively used. Terrazzo floors have increased in favor. Brass strip set into the plastic terrazzo has come into common use. It is relatively inexpensive and yet is effective in minimizing the heartaches caused by cracks that sometimes inexplicably appear in the terrazzo.

Barium plaster, properly prepared and applied, has been accepted by many roentgenologists as a substitute for lead insulation against the x-ray. Barium costs much less than lead.

Rust resisting and stainless metals are liberally used. Due to the building of giant machines, the so-called hospital metal trim, that is, flush with the plaster, has become little if any more expensive now than the wood trim. The extensive use of metal cases has revealed the fact that they are not without serious faults. Studies now under way may lead to an acceptable substitute for these.

#### *Artificial Light Used in Operating Room*

The perfection of operating room lighting fixtures has resulted in some interesting changes in operating room design and location. Gone are the skylights. The huge window has all but disappeared. There are few, perhaps, who would yet venture as far as one of our clients, a distinguished surgeon, who is now building one operating room for general surgery and one birth room, both without windows.

But the perfecting of the electric lamp and of the operating room lights has made possible a sweeping change in the planning of the entire hospital. Formerly it was held that the operating rooms must be certain of an abundance of north light, and this was usually ensured by placing the operating rooms on the top story with windows to the north. Now the surgeon generally has more confidence in the artificial light than in the north light. This change in the emphasis on the source of light has made it possible to place the operating department where it belongs, rather

than where it had to be. It has permitted the hospitals to be so planned that the medical services, such as the surgery, x-ray department, laboratory, physiotherapy, metabolism and cardiography departments, may be near each other. These services are naturally allied; they are the medical and surgical workshops; they belong together. They may be grouped vertically in a separate wing or they may be grouped horizontally on one floor. Of course such horizontal grouping has always been possible but few hospitals were willing to sacrifice the top floor, the best place for patients, to these services, and there were many objections to such a procedure. As it was considered essential to put the operating department on the top floor, the other medical services, if they were lucky, were to be found on the first floor; if unlucky, in the cellar. This separation was not exactly happy.

#### *Location of Operating Suite Changed*

To-day we have greater freedom of choice. Mt. Sinai Hospital, Chicago, was one of the first hospitals to ignore the tradition that operating departments must be on the top floor. Its second floor contains the following departments: operating, x-ray, laboratory, cardiograph, metabolism, physiotherapy, record room and doctors' locker rooms. Each of the departments is isolated and yet there is the easy intercommunication so desirable between these departments. In the remodeling of Michael Reese Hospital, Chicago, a somewhat similar arrangement was followed, again on the second floor.

Protection against the explosion of anesthetic gases has become a problem. The grounded brass grid in a terrazzo floor, first used, I believe, at the Presbyterian Hospital, Chicago, is one solution. But there is no agreement as yet as to what protection is necessary.

More tile or other hard wainscoting material is generally used to-day than was the case five years ago. That pampered patriarch of the hospital departments, the operating suite, often got all that was used. To-day many other places have hard wainscoting materials. Many varieties of materials and of colors are now available.

Among the new things in hospitals is the radio. The central radio system is becoming quite an accepted detail, and is a great boon to the patient. One only needs to hear the unending series of questions and complaints occasioned by an interruption of the radio service to realize what it means to the patient. Comparatively recently a device has been added to the radio increasing its usefulness and making it possible for the hospital to broadcast to its patients divine services, an-

nouncements, lectures and entertainments. It is also possible to equip the radio so that the patient may select from a number of programs.

The improvement in all forms of voice transmission apparatus has been marked. Because of this, I think we may confidently look forward to revolutionary developments in the nurses' call system. One such device is now available. It has all the features of the familiar nurses' call system but adds to these the facilities of a telephone. Pushing the button establishes contact with "central" and as long as the patient faces the receiver, even a whisper can be heard at "central." This device seems to have many possibilities in bettering nursing service. It also introduces a number of problems. Is it necessary to add that it increases the initial cost of the building?

#### *Night Lights in General Use*

Night lights are now an accepted detail in rooms, wards and corridors and I am hopeful that we shall shortly find the silent electric switch. I know that several manufacturers are experimenting along this line. Of course the number of electric outlets for all kinds of purposes in the hospital has grown enormously in the last five years.

When we turn to the plumbing, we find a bewildering array of colors—mauve, heliotrope, ashes of roses, amber. Added expense, to be sure. Value received? A bit difficult to measure.

We have the automobile industry, I believe, to thank for the rapid perfection of chromium as a plating material to replace nickel. It is a great improvement and lessens maintenance costs. A new acid resisting enamel in fixtures has been introduced which gives great promise.

Better looking radiators are available than were to be obtained five years ago, but simultaneously there has arisen a demand that they be covered.

Oil burning equipment has been introduced in many hospitals, sometimes with quite unexpected results. As is to be expected, as our hospitals grow, engine and boiler room economies become more important and money saving equipment is possible. Stokers, permitting the use of the cheaper grades of coal, are installed. Deaerators, to remove the free oxygen from the water and avoid the pitting of pipes, are found to be economical. So, too, are water softeners.

Throughout all the mechanical equipment there is a marked tendency to make use of more durable piping. There is less resistance to the seemingly wasteful shafts that make all pipes accessible.

After a generation in which it has been popu-

lar to deride ventilation in the hospital, it has again been introduced because it is a necessity. The value of ventilation in certain places is no longer debatable. Artificial ventilation will accomplish what natural ventilation cannot accomplish. Of course, as we sink into what Doctor Goldwater calls the "Dark Ages of Hospital Planning" we shall be increasingly dependent on exhaust ventilation.

Elevators have been speeded up and many gadgets have been added to them. Automatic leveling at the floor line is one of these. A "soft" stop due to multivoltage control is another. Elevator speed has increased greatly. But the most interesting development has been in the control of the elevators. Everyone knows the push button elevator. Everyone has probably pushed the button and then seen the elevator go right by empty or with one person in it. Now, push button elevators are available that stop to pick up all passengers going down, if that is its direction, or up, if that is the way it is headed. Special signals can also be arranged so that the elevator will ignore all other calls and respond to an emergency call.

The installation of sterilizers has been revolutionized in the past few years, largely because of the experiments carried on at Michael Reese and St. Luke's Hospitals, Chicago. Almost without exception sterilizers are now built in. Simultaneously, the "wet" sterilizer has largely disappeared and its place has been taken by the "dry" pressure sterilizer.

#### *Many More Toilets Installed*

Many advocate the desirability of a toilet connected with each room. There are few executives that question the desirability of a water-closet in each ward, so equipped that it may be used for bedpan cleansing. There are many administrators, however, who seriously question the desirability of such conveniences as they raise the initial cost of the hospital. However, this convenience, which results in better nursing service or fewer nurses, is making remarkable headway. A number of hospitals have been completed in which every room and every ward has its toilet and bedpan washing device. More such hospitals are under construction and many more contemplated.

As our hospitals increase in size, it is not surprising to find that many mechanical contrivances are introduced to speed up communication within the walls. Such devices as the pneumatic tube, the telautograph, the teletype and the dictaphone are receiving more serious consideration than ever before.



## *When You Build, Consider—* The Plan of Hahnemann Hospital

By H. HALL MARSHALL  
Consulting Engineer, New York, and

JOHN M. SMITH  
Director, Hahnemann Hospital, Philadelphia

THE new Hahnemann Hospital, Philadelphia, with a bed capacity of 700, is a building of twenty floors, with a 150-foot front on North Broad Street and a depth on the first floor of 200 feet. It is the shape of a capital F but it is the intention to build another wing to the south, making it resemble a capital E. The construction is a steel skeleton with reinforced cinder concrete floors. The exterior walls are of limestone for the first three floors, and above they are of buff colored brick, trimmed with limestone and terra cotta. The architecture is a modified American Gothic and the main entrance, on Broad Street, is of Tudor English Gothic design.

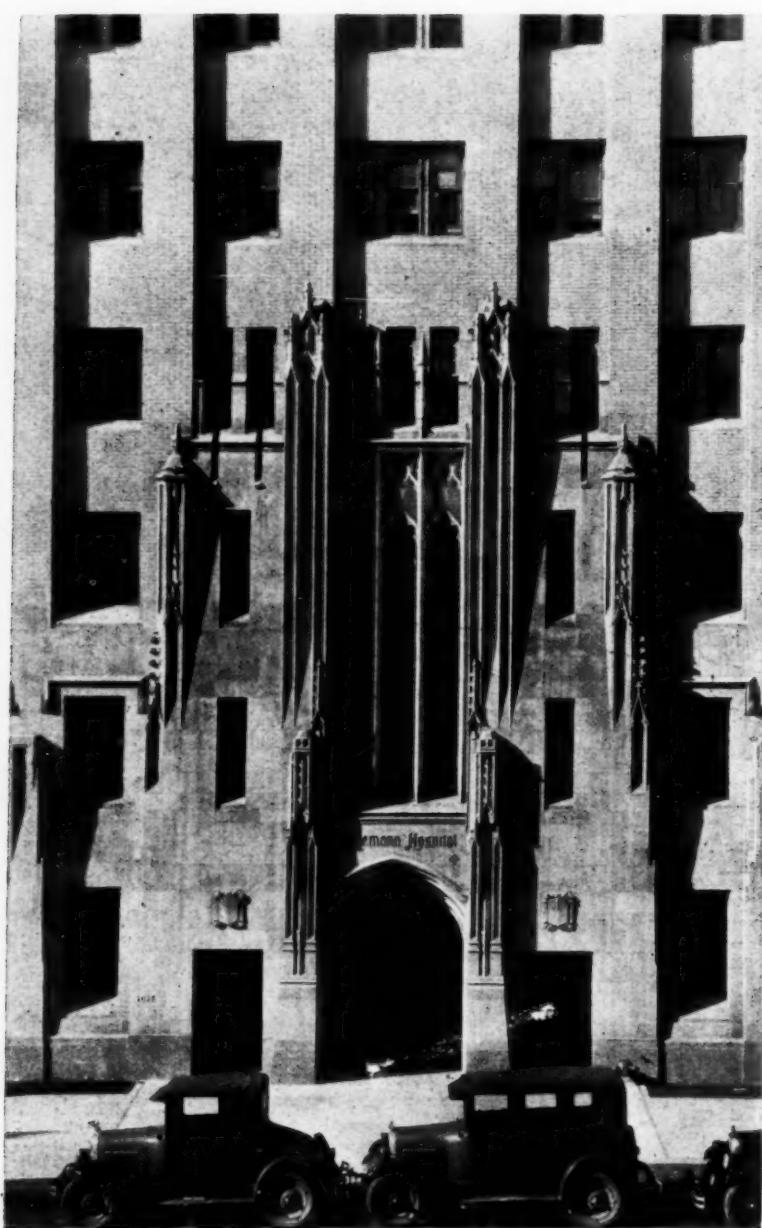
The ground floor contains the general, private patient and diet kitchens, help's dining rooms, with cafeteria service, seven locker rooms for help, with showers, water-closets and washbasins in each one, and the central linen room, as well as the soiled linen and rubbish rooms at the bottoms of the chutes, which connect with all floors. This floor is connected with the power plant, laundry, storerooms and shops, by means of tunnels.

The first or street floor contains the general administrative offices and the offices of the director, the superintendent of nursing and the chief

resident physician; the social service department; first aid department; pharmacy; clothes checking room for ward patients; admission baths for ambulant ward patients; a branch pathological laboratory which serves the out-patient department; a laboratory for basal metabolism, electrocardiography and fluoroscopy; out-patient departments of dentistry, pediatrics, infant welfare, neurology, dermatology, gastro-enterology and general medicine; four classrooms for teaching medical students and locker and rest rooms for office employees.

### *Patients Interviewed in Private*

The general administration office takes care of the case records of the out-patients, the ward patients, the private patients and the in-and-out patients, the compensation cases and the book-keeping. The private patients' office is on the Broad Street front and has adjoining it an admitting room where patients may be interviewed in private before being sent to their rooms. The public offices are on the west side, so that there is no contact between private patients and others. The out-patients' records are distributed to the departments by a pneumatic tube system.



*The main entrance is of Tudor English Gothic design.*

The second floor is devoted to the out-patient departments of surgery, orthopedics, genito-urinary diseases, proctology, obstetrics, gynecology, otology, laryngology, ophthalmology, three classrooms for instructing medical students and the physical therapy department. Adjoining this and the first floor, and directly connected with them, are the pathological laboratories in another building.

The third floor accommodates the maternity department, consisting of four birth rooms, two labor rooms and the necessary auxiliaries; the x-ray department, which occupies the entire east wing; the radium department; seven operating rooms with the necessary auxiliaries, and a room in which tonsil cases awaiting operation and other patients on stretchers may wait. Adjoin-

ing this floor and connected by two passages are the teaching operating rooms, consisting of the amphitheater, seating 225 students, a second operating room seating sixty students and two other clinical operating rooms.

The fourth floor is devoted entirely to ward obstetrics. The south end of the west wing, which is isolated, is used for septic obstetrical cases. The bed capacities of the wards on this floor vary from two to eight. The total capacity of the floor is seventy-four beds and fifty bassinets. There is a nursery which has, in addition to the bassinets, a bathing and changing room, a premature nursery and an isolation nursery, which has a door into the elevator lobby so that it may be entirely isolated from the well baby section.

The fifth and sixth floors are alike. One is devoted to surgery and the other to medicine. Each has a capacity of seventy-eight beds. There are two wards of twenty beds each, and there are a number of other wards, ranging from eight beds down to two beds. The small wards are nearest to the elevators and the service rooms, with the thought that newly operated or very ill patients will be placed in the small wards and moved to the larger wards as they become convalescent. The solariums are to the south of the large wards.

The children's department and the gynecological wards are on the seventh floor. The adult ward unit has a capacity of thirty-one beds. The children's ward, with a capacity of forty-eight beds, is so arranged that not

more than six beds are in a ward. There are several small rooms that can be used for very sick children. Two large playrooms are in the south end of the wing, and are planned so that children can play either outdoors or indoors. In communication with this ward, but also communicating with the corridor through the elevator lobby, are two tonsil wards of five beds each, one for males and the other for females. Each ward has a complete toilet and utility equipment. If contagious disease is found, which is not unusual in tonsil wards, the doors leading to the children's corridor can be locked and the elevator lobby entrance used.

The eighth floor has a women's surgical ward unit of twenty-nine beds on the west end, and the east wing contains twenty-nine semiprivate beds.

The occupational therapy department, sewing committee room and the magazine room are on the north side of this floor.

The ninth floor is devoted entirely to semiprivate rooms and private wards. It has two complete sets of utility and treatment rooms.

The tenth floor is devoted to private obstetrical patients. The front half contains fifteen single rooms, and the west half, twenty-two semiprivate beds. There is a large and complete nursery like the one on the fourth floor. All private and ward obstetrical cases are delivered on the third floor.

The eleventh, twelfth, fourteenth and fifteenth floors are exactly alike. Each contains thirty private rooms, most of which are in pairs, with communication through the clothes closet. This arrangement makes it possible to rent two rooms to the same patient or to do group nursing. If the rooms are rented singly, the two doors can be kept closed, thus preventing the patients from disturbing each other.

The sixteenth and seventeenth floors have twenty-five private rooms each. On the northeast corner of the sixteenth floor they are so arranged that it is possible for a patient to have five rooms, a sitting room and an open porch.

On the eighteenth floor are two large open roofs for patients, a large solarium, the walls and roof of which are made of ultraviolet ray transmitting glass; a large lounge and meeting room, which is luxuriously furnished; a matress sunning room, the walls and roof of which are of ultraviolet ray transmitting glass; the living rooms of the director's apartment, and the dumb-waiter machinery room.

The nineteenth floor accommodates the telephone central and machinery room; the hot and cold sterile water system, which provides sterile water for the entire hospital, including the operating rooms; the ice water system, which is piped to drinking fountains on all floors; record storage, and the bedrooms of the director's apartment.

The twentieth floor contains the machinery for the six elevators, the exhaust ventilating system, the raw water house tank and the soft water house tank. All of the hot water used in the entire institution, including the college, nurses'

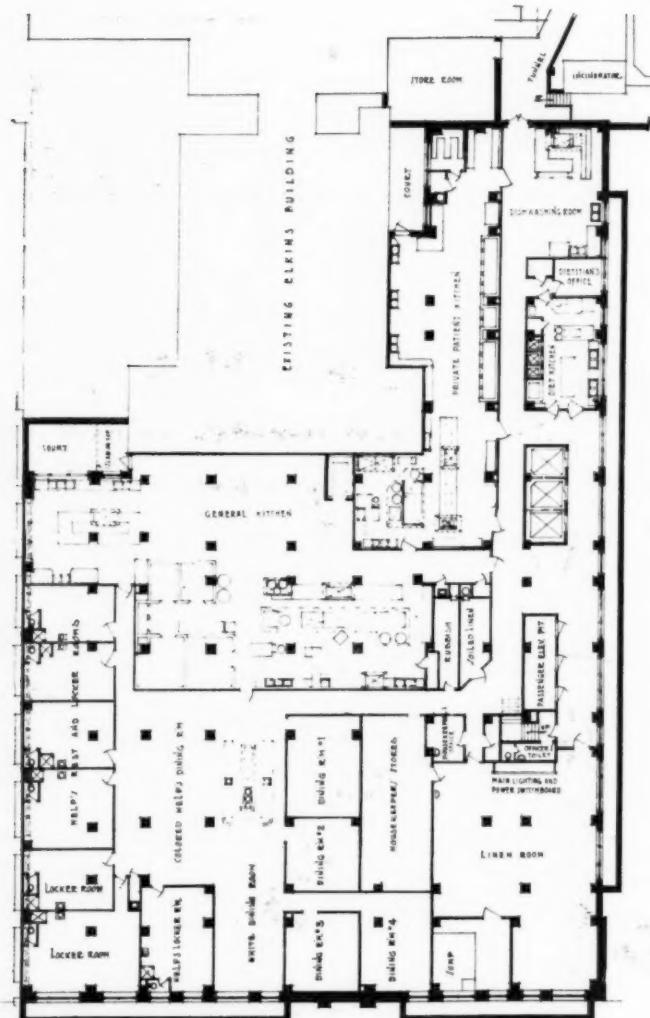


*The hospital as it appears from the southeast.*

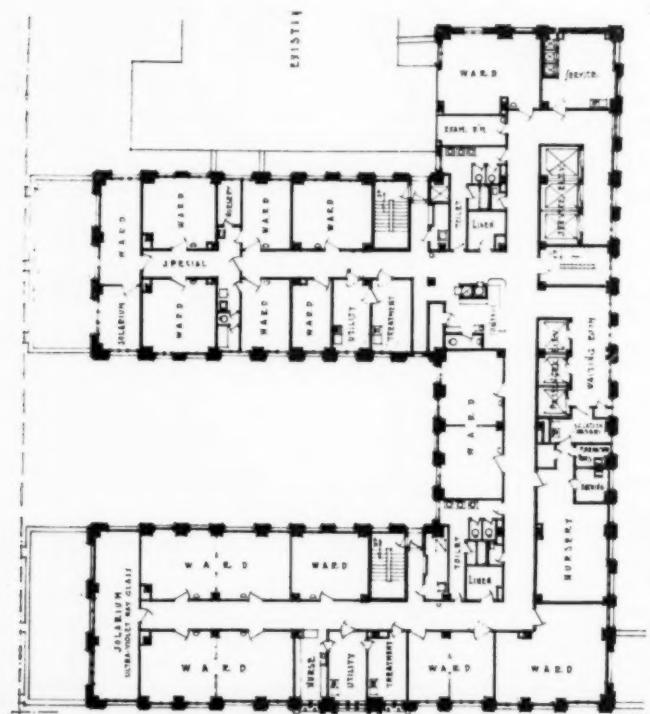
home and new hospital, is softened by zeolite softeners, as is also the hot and cold water used in the boiler room and in the laundry. The entire hot and cold water system is of high grade brass pipe. All exposed metal plumbing fixtures are chromium plated, which prevents them from becoming tarnished and makes them easy to keep clean.

In numbering the floors and doors throughout the entire plant, the number thirteen does not appear, because of the well known fact that persons who declare themselves free of superstition nevertheless do not care to occupy space bearing that number.

On every floor occupied by patients there are two solariums, the windows of which are of ultraviolet ray transmitting glass. The passenger



Ground floor plan.



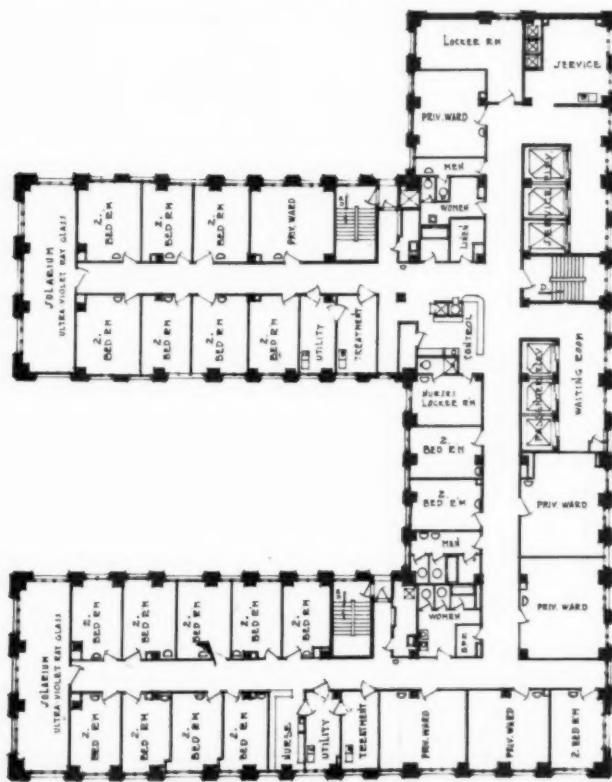
Fourth floor plan.

elevator lobbies are very large and are furnished as sitting rooms, so that there are three recreation rooms on every patient floor.

On every floor is a central supervisory station, so placed that it is necessary to pass it to reach the stairs or the elevators. In addition to this central station, the semiprivate and ward floors have nurses' stations in the wings. The central supervisory stations have, facing the corridors, long nurses' desks, with shelves for blank forms and counters above, a medicine sink with a medicine closet over it, having a special compartment for narcotics, two large supply closets and, at the rear, openings into the soiled linen chute and the rubbish chute, into which all waste from the floor is put.

Each floor has a service room on the north side adjoining the service elevator lobby. It contains a large electric refrigerator, a sink having hot and cold service water and sterile water, instrument and utensil sterilizers, a bedpan washer and sterilizer, a blanket warmer, a supply closet, landing doors for the three automatic electric dumb-waiters, which are used for the between-meal nourishments and the drugs and a monel metal table, having a gas stove on one end and having shelves over it. The food service for all classes of patients is accomplished by serving complete trays from the kitchens on the ground floor and distributing them by homemade trucks.

On all ward floors are large classrooms used to



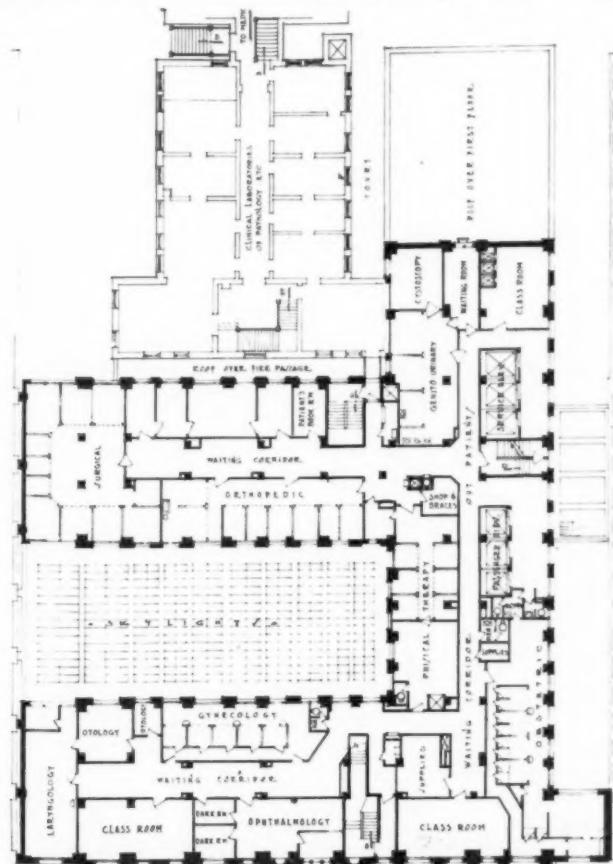
Ninth floor plan.

demonstrate cases to medical students. The beds in all wards are so arranged that the sides are always toward the windows. All semiprivate rooms and all two-bed rooms on the ward floors have lavatories.

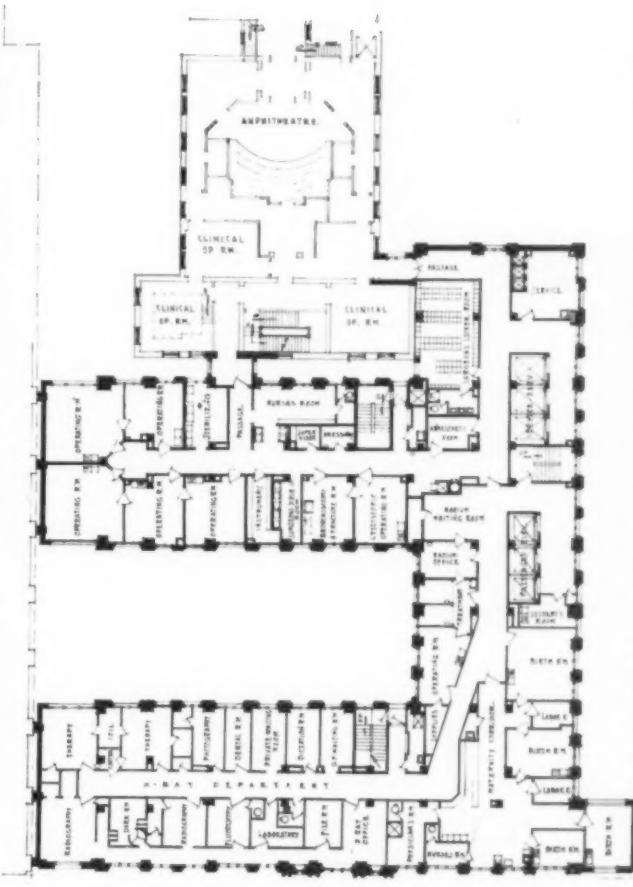
Out of the 185 single rooms, 133 have toilets and fifty-two have bathrooms. Every private room is a complete nursing unit, having a toilet containing a water-closet, designed to receive a bedpan completely and having a spray nozzle in the bottom so that the inside of the pan can be washed in the bowl of the water-closet. A monel metal rack on the wall contains a bedpan, urinal, irrigating can, washbasin and dressing pan. On the wall, low enough so that the wet part will rest against the base, is a hook to hold the bedpan brush. Over the washbasin is a mirror, and built into the wall are soap and toilet paper holders.

In the patient's room is a French telephone, radio, silent nurses' call system, two wall plugs for electric appliances, a flush type night light and an electric fan, which is mounted on the wall and so arranged that the air from it will hit the opposite wall and return to the patient diffused, thus keeping the air in motion and avoiding the danger of giving colds. The fan and night light are controlled from the head of the bed.

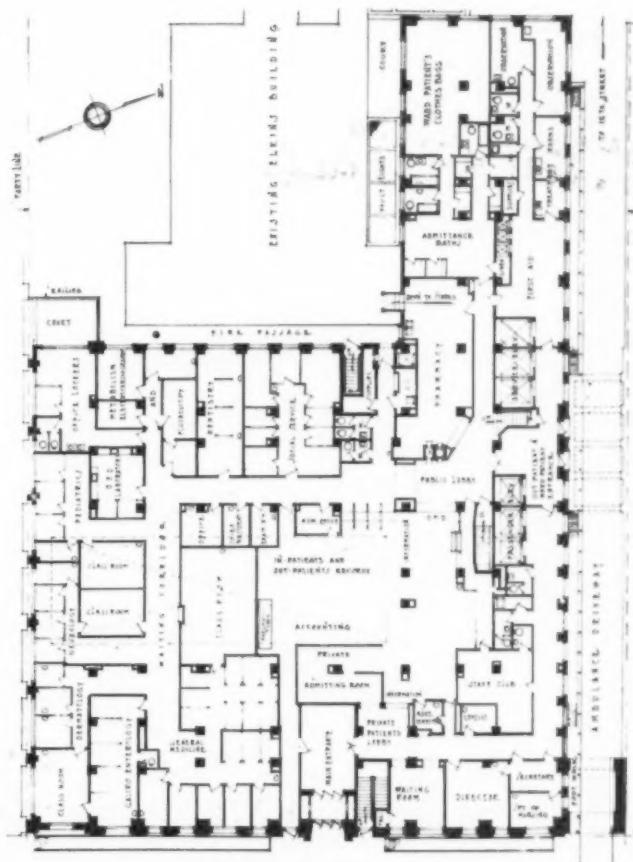
On every private and semiprivate floor is a nurses' room, containing lockers, shower bath



### *Second floor plan.*



*Third floor plan.*



### *First floor plan.*

*The nursery has, in addition to the bassinets, a bathing and changing room, a premature nursery and an isolation nursery, which has a door into the elevator lobby, so that it can be isolated from the well baby section.*



*On every private room floor is an elevator lobby, attractively furnished as a sitting room. Here visitors may await permission to visit their friends. The floors in the corridors are of black and gold rubber, laid diamond style.*

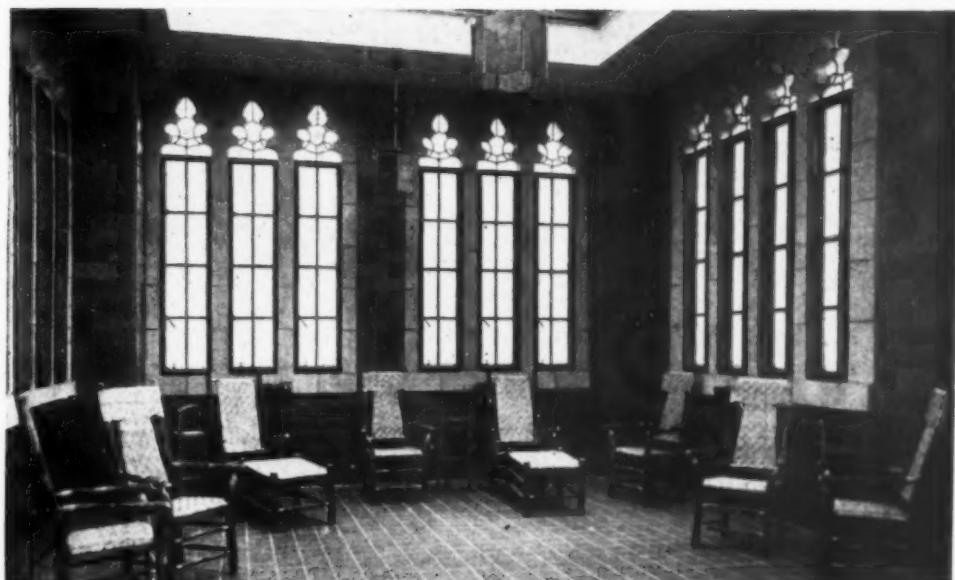
*The lounge and meeting room, on the eighteenth floor, offers a place where the staff members and trustees can get together for friendly chats or for the discussion of hospital business in an informal way.*





*De luxe private service, appointments and furnishings are provided on the sixteenth and seventeenth floors, each of which has twenty-five rooms. At the south end is a large open porch with comfortable furniture.*

*On the ends of the two southern wings there are, on every patient floor, two lounging rooms or solariums. These rooms are comfortably furnished. Their walls are of a warm brown tone and the windows are fitted with ultraviolet glass.*



*On every floor is a central supervisory station, so placed that it is necessary to pass it to reach the stairs or the elevators. These stations have long nurses' desks, with shelves for blank forms, and counters above.*

and other toilet facilities. There are annunciators in these rooms from the nurses' call system.

With the exception of the sixteenth and seventeenth floors, the nurses' call system is of the usual silent electric type. On these two floors there has been installed in the bedside table a receiving and transmitting device, which makes it possible for the nurse at the central station and the patient to carry on a conversation without the patient's picking up an instrument of any kind. This is in addition to all the features of the regular call system. Throughout the building is a silent electric paging system, which makes it possible to reach any physician or official of the hospital without ringing the telephone. There is a choice of two radio stations at every bed in the hospital and single head sets have been provided.

On the first floor, arranged so that it is convenient for physicians to pass it, is an in-and-out register. When the physician throws the switch, it illuminates his name on the register, in the clerk's office and over the telephone switchboard on the nineteenth floor. Over his name is a hook on which messages can be placed for his attention.

#### *Wall Lighting Fixtures in Private Rooms*

The illumination in all corridors above the first floor consists of flush night lights, which are placed in two rows, one near the floor and one near the ceiling. The effect is very beautiful. The illumination in the private rooms is by wall fixtures and lamps permanently fastened to the beds. In the public and private wards and birth and labor rooms there are indirect fixtures. In each operating room, the ceiling of which is ten feet high, have been arranged nine sockets divided between two wall switches. In these sockets are placed 150-watt lamps, the lower ends of which have been silvered, so as to throw all the light to the ceiling. The result is an excellent and inexpensive illumination. Every birth and delivery room has an adjustable stand lamp.

The floor covering in the offices, private rooms and private floor corridors is rubber, in the wards and out-patient departments, it is mastic, in the operating rooms, service rooms, toilets, baths and on the stairs, it is terrazzo. In the general kitchen and dishwashing rooms the floors are quarry tile and in the private patient and diet kitchens they are cork tile.

The refrigeration throughout is automatic electric, and all units are independent of each other. The milk storage in the general kitchen consists of 100-gallon glass lined tanks, cooled by electric units.

The doors on all patient rooms have friction hinges, so that it was unnecessary to use transoms or other means of ventilation. Arm hooks pointing downward have been used instead of knobs. Instead of latches, rubber rollers have been used, so that the door can be opened from either side by a pull or a push. All exposed hardware throughout the building is chromium plated. The windows on all patient floors have been set 3 feet 6 inches from the floor, so that it is impossible to fall out accidentally. The sashes are about two feet wide and are in groups of two or more. The narrow sashes enable nurses and other women to open and close them without assistance. The design of the sashes and frames is such that the lower sash may be raised three inches, admitting air at the meeting rail but not at the bottom. This provides an excellent form of winter ventilation.

#### *Neutral Colors Predominate*

The color scheme throughout the building is cream walls and tan doors, windows and trim. These are soft, neutral colors which are not unpleasant to patients of any type.

In all elevator lobbies, service rooms, nurseries, birth and labor rooms, and in the general offices, acoustical treatment has been applied to the ceilings. This and the fact that elevators open toward the exterior wall instead of toward the corridors, makes the hospital very quiet.

Throughout the entire building the attempt has been to have everything plain, practical and comfortable. The atmosphere is that of a first-class hotel or club. Just eighteen months elapsed from the time the demolition of the old building was begun until the new building was ready for complete occupancy. The cost of the building was approximately \$2,200,000.

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#### More Small Hospitals Favored for New York City

New York City needs a number of small community hospitals rather than additional large hospitals, Health Commissioner Wynne told the New York City Visiting Committee of the State Charities Aid Association at a recent meeting. Doctor Wynne also told of his plans concerning the new department of hospitals, under which all municipal hospitals were consolidated February 1.

The needs of the department, he said, are: a diagnostic service supplied to needy persons at cost; closer supervision of the standards and working conditions of the 150 private hospitals in the city; a study of convalescent home requirements with a view to relieving congestion in hospitals and almshouses; a statistical bureau that would supply more adequate death and disease statistics; broadening the scope of hospitals through preventive work and better treatment for chronic diseases.

# When You Build, Consider— First Aid Fire Protection

By R. D. HOBBS

Western Actuarial Bureau, Chicago

**F**IRST aid medical treatment is often the means of preventing loss of life; likewise the use of first aid fire protection apparatus is the means of preventing serious loss by fire.

A recent inspection of all hospitals in a Middle Western state revealed the fact that only 40 per cent of the institutions have buildings of fire resistive construction. In this article, therefore, reference will be made to the average risk of ordinary brick joisted construction where the hazard of fire is the greatest.

Structural improvements and the use of fire resistive material in new buildings make possible a degree of safety that cannot be secured in existing structures except by the installation of automatic sprinklers. It is the old building that generally is the most dangerous and for it the automatic sprinkler

protection is the real solution. In all hospitals not of fire resistive construction the installation of automatic sprinklers insures the maximum of protection to both life and property. These systems have established a wonderful record in mercantile and industrial properties in extinguishing fire in its incipiency, thus saving property of large values. In the hospital the saving of life is a far more important feature than any consideration of property values, and what sprinklers do for the business values they can do in saving both life and property.

Operating without human agency, ever on guard, responding almost instantly, sprinklers perform two functions—they automatically turn in an alarm to the fire department and at the same time water is sprayed upon the fire. With

proper spacing of automatic outlets and their introduction into places under stairways, in closets and in ventilating ducts, there is little chance of a fire gaining headway.

A recent fire in an x-ray film vault in the basement of a hospital was held in check by the automatic sprinklers until the arrival of the fire department, when the fire was soon extinguished. Without such protection the rapidly burning films would have endangered the entire building, with the possibility of panic and serious loss of life. In another instance, a fire started in a pile of mattresses in the attic. One sprinkler opened and extinguished the fire before it was discovered. In another, fire started in a hall, apparently from a cigarette, and one sprinkler extinguished the fire with but little loss. Because of the reliability

and efficiency of such protection recognition is given by underwriters in the fire insurance rates.

Fire hazards in hospitals are of two kinds—common hazards and special hazards. Common hazards exist in all classes of buildings; under this heading come heating, cooking, lighting, power and housekeeping. Special hazards are those incident to the storage and use of flammable and explosive oils and gases, volatile liquids, paints, chemicals and x-ray films. In both classes the human factor is ever present.

Heating equipment is responsible for more fires than any other one cause. Heating plants should be in a separate building or in a fireproof room, so arranged and ventilated that a fire will not communicate itself to the rest of the building. If oil is used for fuel, the supply tank should be

outside, so that in case of fire it will not provide fuel for a serious fire and the consequent transmission of heavy smoke throughout the building. Suitable chemical extinguishers should be kept on hand to provide the engineer with a first aid defense, which in most instances will enable him to extinguish the fire before it has a chance to become well started.

All chimneys, stacks and stovepipes should have proper clearance from combustible material. Stovepipes should not be in contact with wood, and ample air space should be provided to insure proper ventilation where such pipes pass through wood. These pipes should never pass through closets, attics or other concealed spaces.

All cooking ranges and ovens should be set on an incombustible base away from woodwork. Ventilating hoods should be provided in all cases, with vents leading directly to the outside of the building. Grease fires are more or less common when large ranges are used, and the proper ventilation confines such fires to the range and hood and prevents smoke from being transmitted throughout the building. Gas and electric plates as well as warming tables in diet kitchens should be away from combustible materials.

Chemical extinguishers should be installed in all rooms where cooking is done, so that a fire, usually caused by an accident, will not get beyond control.

#### *Paint Shop Is Source of Danger*

Nearly every hospital has a paint shop and workshop, with a generous supply of oils, paints and varnishes. Whenever possible such work should be done outside the building that houses the patients. If the shop is in the main building, the room should be where a fire will not readily be communicated to the rest of the building and the amount of oils and paints should be sufficient for the immediate need only. The main supply should be kept outside. Alcohol and turpentine needed for thinning paints and varnishes and for cleaning should be kept in approved safety cans. Chemical extinguishers should be installed in rooms where such work is done so that they may be readily available to extinguish a fire before it becomes well started.

Chemicals, dangerous from both a fire and explosive standpoint, are frequently found in institutional drug rooms. It is usually necessary to keep on hand considerable quantities of ether, ethylene, alcohol, gasoline and other flammable liquids which possess a distinct fire and explosion hazard. Records indicate that 6 per cent of all hospital fires are due to these hazardous materials. Chemicals of this character should be kept

in rooms located more for safety than for convenience and the attendant should be constantly reminded of the fire explosion danger. Human nature is prone to discredit certain well known hazards when their constant handling in daily work has been free from accident. Unusual, unexpected accidents frequently occur under such circumstances and therefore attendants should be continually cautioned regarding them.

Rooms for dangerous chemicals should be ventilated so as to carry off hazardous fumes and smoke in case of fire. First aid fire equipment in the form of approved chemical extinguishers should be available for instant use, for prompt and effective action is necessary or the fire will reach such proportions as to drive away those who might otherwise fight the fire. Not only should such equipment be supplied, but it should be periodically inspected and instruction should be given in its proper use.

#### *How X-Ray Films Should Be Stored*

X-ray films constitute a distinct fire hazard, depending upon the quantity stored and the manner of storage. Safe storage can be obtained if relatively small quantities are kept in properly vented cabinets. When these films are stored in rooms or vaults, proper ventilation should be provided so that in case of fire the fumes and smoke will be conducted to the outside. In rooms where x-ray films are handled and stored, chemical extinguishers should be provided for instant use in case of fire, for unless some suitable agency is provided and can be used promptly, the fire will spread so rapidly as to prevent the use of first aid equipment. It will then be a problem for the fire department.

Undoubtedly electricity is the safest form of lighting for institutional buildings, but even when the original installation is standard, there are many dangers to be guarded against. The percentage of fires from this cause is 7 per cent. Excessive voltage will break down insulation, and therefore fuses must be properly installed and maintained to prevent overloading. All hazardous electrical installations should be thoroughly and periodically inspected by a competent electrician to make sure that they are kept in proper order. Rooms containing motors and generators should have readily available chemical extinguishers especially designed for electrical fires.

Correcting nonstandard and unsafe electric wiring recently resulted in an annual reduction of \$89 in the insurance cost for one hospital, and \$47 for another. These changes were made at the recommendation of the inspection bureau.

Fires have started from steam dryers in laun-

dries, through woodwork or clothing coming in contact with hot steam pipes. Clothes dryers should be of metal throughout, and steam pipes should be protected by wire screening. Gas mangles should be properly installed and the flames guarded. Pilot lights should be installed in circuits to all electric irons, and current should never be left on when irons are not in use. Noncombustible stands, with at least 6-inch clearance, should be provided for irons not in use. Chemical extinguishers should be readily available in the laundry for prompt use in case of trouble.

Cleanliness and order are the rule rather than the exception in institutional buildings, but hazardous conditions are likely to exist in basements, attics and workshops, and special supervision and care are necessary to keep these places clean. Metal cans should be provided for rubbish and soiled cotton waste and any accumulation of combustible material in basements and attics should be removed at once. Especial attention should be given to the removal of papers and other packing material from storerooms and supply rooms. In all localities where combustible materials are stored and kept, chemical extinguishers should be installed and should be readily available in case of fire.

Recently the removal of the trash and old furniture from the attic of a hospital resulted in the removal of a penalty charge in the fire insurance rate which was costing \$30 a year in premium. This hospital was of fireproof construction, except that the roof was tile on combustible supports. A fire in the attic would have resulted in a material loss to the building.

If every possible precaution is taken there should never be a fire, but unfortunately even with buildings properly constructed and all safety measures taken, accidents will occur, and there is therefore still another problem to contend with—what to do when a fire is detected.

#### *Notifying the Fire Department*

Because of the possibility of error and delay the telephone method of sending in an alarm is unreliable. When the safety of patients is the first consideration, effective means of notifying the fire department should be provided and notification of the fire department should be the first consideration in case of fire. Some of the most disastrous fires in institutional buildings have resulted from delay in sending in an alarm. Certain types of fire alarm systems can be connected to the nearest city alarm box so that the operation of any one of the private boxes will also send the alarm to the city department. For obvious reasons it is not recommended that alarms be

sounded on the premises, except to notify the superintendent or hospital authorities. Such alarms can be given by use of lights which will avoid the possibility of panic.

The second consideration in case of fire is the use of first aid equipment.

When we consider that fire departments extinguish by means of chemical apparatus more than 80 per cent of the fires to which they are called, the importance of having a chemical suited to the hazard is apparent. The soda-acid chemical extinguishers are familiar fixtures on almost all fire apparatus. Chemical solutions are better than water, because in addition to the water that enters into their composition they carry to the blaze carbondioxid, a fire smothering gas.

#### *How Extinguishers Operate*

The most common type of chemical extinguisher is the 2½-gallon extinguisher which operates by the action of sulphuric acid upon bicarbonate of soda. This is one of the most effective hand extinguisher appliances that can be placed in hospital buildings because it can be used by hospital attendants with very little instruction. Extinguishers of this type, which have been tested and approved by the Underwriters' Laboratories, should be provided in the corridors of all buildings and also in wards, except where there is danger of their being interfered with by irresponsible patients. Especially should they be provided in all workshops, laundries, kitchens, storerooms and other places of special hazards, as we have previously pointed out. Such extinguishers should be periodically refilled and all employees should be drilled in their use.

The recent installation of approved chemical extinguishers in one hospital resulted in an annual saving of \$25 a year in the insurance cost.

Foam extinguishers which smother fires by means of a foam that they generate are designed especially for extinguishing oil fires, but are also effective upon fires in many other materials. A foam type of extinguisher generates approximately eight times the volume of the original solution used in production. Carbon dioxid is confined in the tough, durable bubbles of the foam and is distributed quickly and easily over an extensive burning surface of any kind, putting a blanket of fire smothering gas directly on the fire, shutting off all oxygen from the flames. Extinguishers of this type are especially effective upon fires involving oil, gasoline, benzol, benzin, kerosene, paint, varnish, grease and flammable chemicals of every kind.

The carbon tetrachlorid extinguisher is usually of two or three-pint capacity and handles a liquid

composed largely of carbon tetrachlorid. Extinguishers of this type are especially valuable for use on electric fires. The liquid is a nonconductor of electricity and when placed upon the fire forms a heavy gas blanket which excludes the oxygen from the flames. These extinguishers are not recommended for general use upon fires in wood, paper and similar materials, as their quenching effect is about equivalent to that of an equal amount of water, but they can be used advantageously in the switch and generator rooms, oil rooms, drug rooms and laboratories where a blanketing effect is desirable.

#### *Extinguishers That Are Valueless*

Metal tubes filled with bicarbonate of soda are found in many of the older hospitals and are practically valueless and should be discarded. Bicarbonate of soda has only slightly greater extinguishing value than ordinary dirt, sand, flour or any other finely divided incombustible materials that can be used to smother flames. Hand grenades or bottles filled with water or special extinguishing liquids are of no practical value and, like the dry powder tube extinguisher, should be discarded and a suitable form of chemical extinguisher substituted.

For fires discovered in the incipient stage, chemical extinguishers, water pails and similar equipment are generally adequate. On buildings of ordinary construction when fires have gained considerable headway, powerful streams from outside hydrants alone will be effective. Between these two stages there is occasionally a time when inside hose equipment proves useful. When inside hose protection is installed the water supply and piping should be sufficient to give at least twenty-five pounds of pressure at the highest point, and hose should be so placed that every point inside the building can be reached by one or more streams.

The importance of equipping every hospital with reliable first aid fire extinguishing apparatus cannot be emphasized too strongly. If adequate first aid fire protection is warranted in our factories, warehouses and stores, where physically fit occupants are housed, it is obviously more necessary in institutions used twenty-four hours a day throughout the year and filled largely with helpless patients. For the proper installation of an approved equipment, credit is allowed in the fire insurance rate and many institutions have received the benefit of this special credit.

In each state an organization is maintained by the stock fire insurance companies, commonly known as the inspection or rating bureau. Such bureaus have among their employees engineers or

experts familiar with all features of construction, occupancy and protection, whose duty it is to offer such recommendations to the property owner as will tend to lessen the risk from existing hazards. This special service is offered to property owners either direct or through their insurance representative. This service is offered free of charge to all hospitals.

When considering the best method of safeguarding property against fire, the advice and counsel of these organizations should be secured in order to obtain the benefit of their knowledge and experience in determining the best and most practical means of solving individual problems. If it is desired to secure proper recognition in the fire insurance rate for the installation of first aid fire protection, the engineers who make the rate should be consulted first.

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#### The Middle Class Patient— What Is He Like?

The problem of providing for the middle class patient is one that looms large in hospital administration, says an article in *Hospital Social Service* for January. Most hospitals have a proportionate number of private rooms and ward beds, but there is a scarcity of much needed semiprivate beds for the middle class.

The semiprivate patient has been described as one "who is not or does not wish to be regarded as a charity patient, hence he does not wish to be assigned to a public or free ward. He expects to be permitted to choose his own physician and to pay a moderate fee to the physician and a moderate service charge to the hospital—presumably as much as a person with a modest income can afford. He is often a person who makes certain claims to education, refinement, gentility and sensitiveness and who on these grounds demands special consideration. He craves particularly a measure of privacy during his stay in the hospital."

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#### What the Library Means to the Mental Patient

Restoring the nonpsychotic to society and reeducating the psychotic are two outstanding aims of the neuro-psychiatric hospital library, according to Mrs. M. P. D. Miller, hospital librarian, United States Veterans' Bureau Neuropsychiatric Hospital, Little Rock, Ark., in a paper on "The Mental Patient and the Library." "The library is a genuine help to some of the patients all of the time, and to others some of the time," says Mrs. Miller.

The paper continues: "The process is subtle, indirect, deferred. Its reactions are positive—a certain and persistent corrective of adverse moods, which in time may have a happy or substantial effect in mitigating or curing the psychic unbalance or personality disturbance. And any progress report that fails to record library treatment and its reaction upon the patient omits a highly informing and useful factor in presenting a case before the clinical staff or the inquirer."

# When You Build, Consider— What a Brooklyn Community Did

By MAX ABELMAN

Formerly Executive Director, Brooklyn Federation of Jewish Charities

THE new buildings of the Jewish Hospital, Brooklyn, N. Y., which celebrated its twenty-fifth anniversary in January, 1928, have been completed. Now with a capacity of over 650 beds the new hospital ranks as the third largest non-municipal general hospital in Greater New York. It was dedicated December 2, 1928, in the new Dr. Leon Luria Memorial Auditorium.

The entire institution consisting of six buildings covers the block bounded by Prospect Place, Classon and Saint Marks Avenue. The new buildings known as the main hospital, residence hall for nurses and employees' building, erected at a cost of \$4,000,000, represent the last word in

modern appliances and equipment, no reasonable expense having been spared to make them models of their kind.

From the inception of the building program, the hospital's organizers have endeavored to keep pace with the growth of Brooklyn, now the largest of the city boroughs, although funds were not always forthcoming.

One of the many factors that have contributed measurably to the hospital's renown and usefulness is its nonsectarian character. Notwithstanding its name, the Jewish Hospital has at all times been open to all creeds and knows no color line.

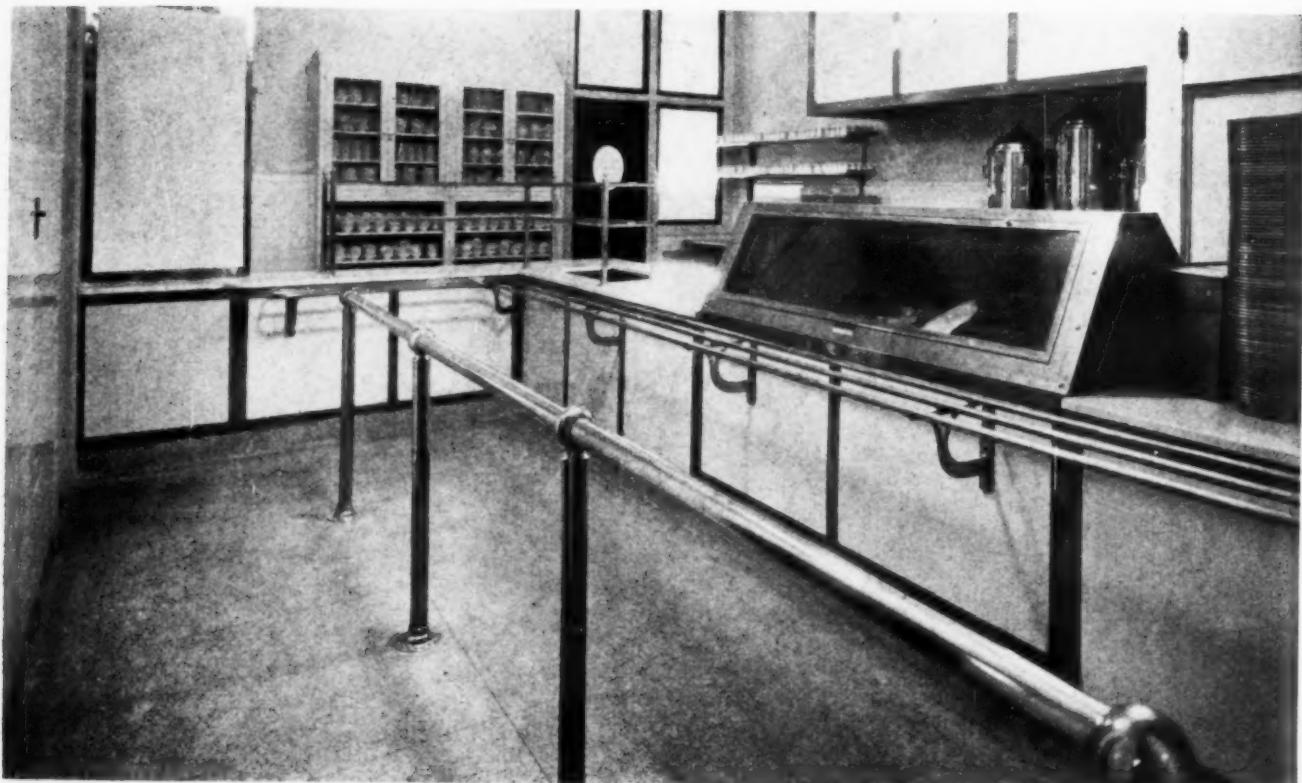
To those who have watched its steady growth,



*The roof solarium on the eleventh floor is attractively furnished in stick willow.*



*Above is shown the hospital bakery where pies and pastry for the entire institution are made. The lower picture shows the serving counter in the nurses' cafeteria.*



the Jewish Hospital is regarded as a lasting monument to the efforts of a small group of young men of the Jewish faith who met in 1901 in the office of Nathan S. Jonas, organizer of the hospital. Mr. Jonas then was a prominent young insurance agent and now is chief executive of one of the country's largest financial institutions.

The hospital began its operations in 1901 as a mere dispensary in one of the outlying sections of the borough. It was incorporated by the New York State Board of Charities and soon acquired the Women's Memorial Hospital Building in Classon Avenue.

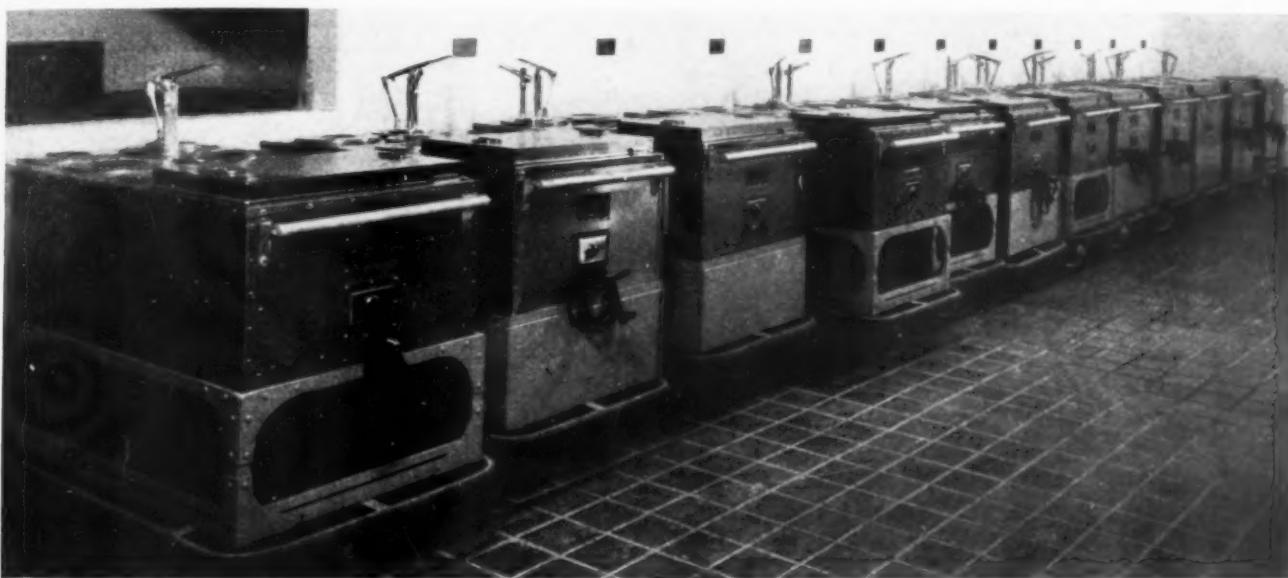
This was the initial step in the creation of an institution that now represents an investment of over \$6,000,000.

The new main hospital is eleven stories high and has accommodations for 330 patients. On

these rooms are self-contained as to scrub-up facilities and sterilization. All rooms have the north light except the genito-urinary surgery, which has southern exposure. The services will be segregated, a special room being assigned to the orthopedic, to the ear, nose and throat, to the genito-urinary and to the surgery. When necessary these rooms are screened so that no daylight can enter.

#### *Central Instrument and Sterilizing Rooms*

On the opposite side of the corridor one large suite contains a central instrument room, a central sterilizing room and the nurses' workrooms, with steam drier and other appliances. There are also anesthetizing and recovery rooms on this floor. The nurses on duty on the operating floor have not been forgotten as is evidenced by their



*Here is the line-up of electrically heated food carts which are used to carry food from the kitchen to the serving rooms.*

the eleventh floor are a sun parlor and a roof, attractively furnished in stick willow. Other sun parlors similarly furnished open off the wards on the second, third, fourth and fifth floors. Each private and semiprivate room has a balcony large enough to permit a bed being placed thereon. On the ward floors, there are also large general balconies on the north side of the building for the use of ward patients.

The tenth floor contains nine operating rooms, in the center of which are two large clinical operating rooms with viewing balconies, which are entered by an interior staircase from the tenth floor corridor. The students occupying these balconies are screened behind a plate glass baffle rail. East and west from these rooms are the other operating rooms, four of which are arranged in two suites and the balance singly. All

rest room and showers. Here are also an office for the supervisor and a commodious room containing lockers and showers for surgeons and professional visitors.

The eighth and ninth floors contain single private rooms, which are usually large in size. Each is equipped with a closet, a lavatory and a toilet. The windows in these rooms open upon commodious balconies. The fourth, sixth and seventh floors are for patients on semiprivate service. The units contain from two to four beds each. Every room is equipped with a lavatory and a toilet, with the exception of eleven rooms on the seventh floor which are without toilets.

The second, third and one-half of the fifth floors are so-called wards. The ward atmosphere found in so many hospitals has been eliminated as far as possible. The largest unit on these



*Each of the private rooms has a closet, a lavatory and a toilet. The windows open on to a large balcony.*

floors contains twelve beds, and the smallest, four beds. The nurses' station is so arranged that through viewing windows the nurse can see twenty patients at one time. The quiet rooms for those dangerously sick are arranged near the

nurses' station, so that the patient is constantly in view.

On all floors are serving rooms to which food is brought in electrically heated food carts, directly from the main kitchen. These rooms are



*The wards are equipped with sliding curtains so that each patient may be shut off from the rest of the ward.*

elaborately equipped and are adaptable to any manner of food service. Indirect lighting illuminates all the bedrooms. At night special lights that illuminate only the floor are used. These lights are on the side walls near the floor.

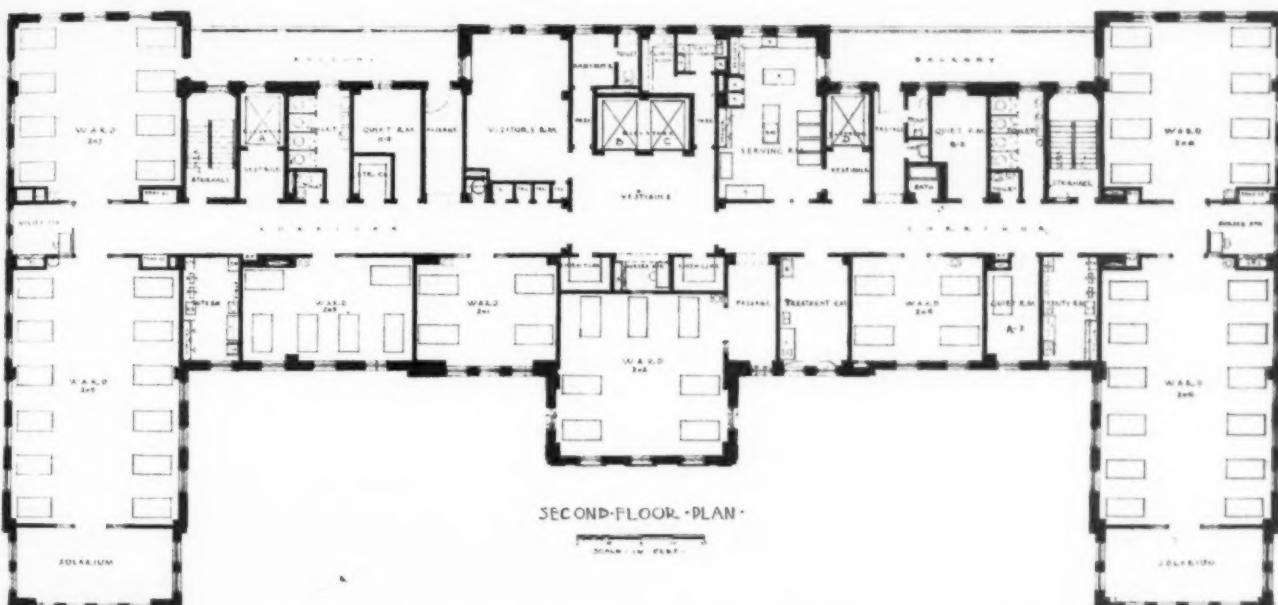
Each floor contains a large closet for stretchers and wheel chairs; a diet kitchen where nurses may prepare special dishes and nourishment for the patient; a flower room, where flowers are placed at night, and a nurses' rest room. All of these rooms are within reach of the charge nurse by means of a nurses' signal system.

The westerly half of the fifth floor is devoted to the x-ray department. The complete equipment of this department will permit of thorough use of the diagnostic facilities for which the roentgen

patients has been completely equipped, so that when the patient reaches the ward the preliminary work for his care and comfort has been done. There are examining rooms and cubicles for the taking of histories in a private manner, also a connecting bathing suite.

The offices of the bookkeeper and cashier adjoin the ward patients' admission department. Here is also a fireproof vault, and the office screen contains plainly marked windows so that the patient may readily transact his business. The executives of the hospital have their offices on this floor, as have also the superintendent of nurses and her assistants.

Considerable space has been devoted to an information bureau, which will operate day and



ray is employed. Here are found four x-ray photographic machines in separate rooms, a room for deep therapy and another for superficial therapy and other rooms for fluoroscopy. Rooms with the proper machines are devoted to orthopedic work and cystoscopy. There is a lecture room for students and a large viewing room.

From this floor a bridge leads directly into the children's hospital, also to the women's hospital and the maternity wards. All hospital buildings are thus connected on this fifth floor level, as well as on the street floor and the first floor, where corridors serve the same purpose. Even the stage of the Louria Memorial Auditorium will be on the level of connecting corridors so that patients may be presented for clinical work.

The first floor is devoted to administration and admission of patients. There are three entrances to the building on this level, the east and west entrances being for patients, and the central entrance for visitors. The admission room for ward

night. Questions of every nature will be referred to this room. It contains an auxiliary switch-board and an "In and Out" board which records when every doctor enters or leaves the hospital. The clerks in charge of this department will be required to have a detailed knowledge of the hospital.

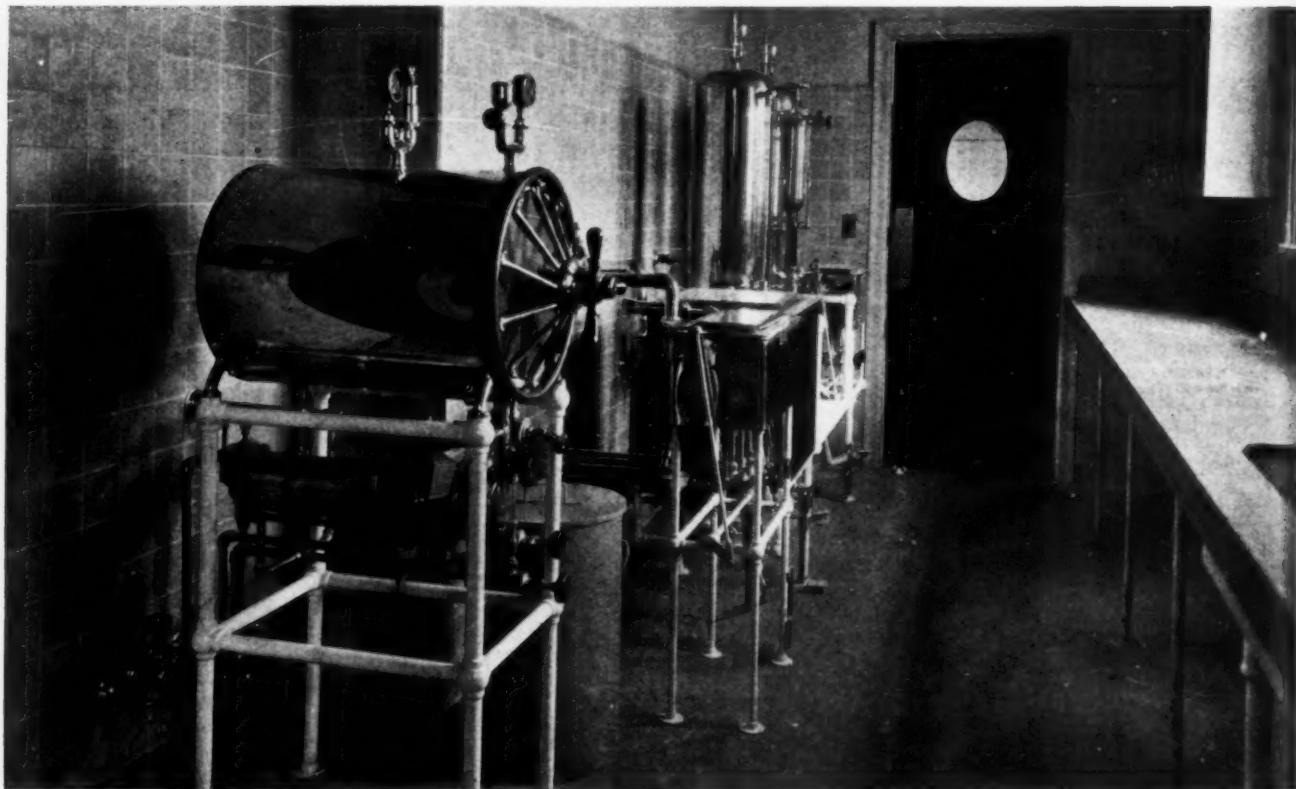
From an immaculate and completely appointed white tile kitchen fitted out in monel metal, on the street floor, will be served the food for which the Jewish Hospital has borne an excellent reputation. The cafeteria system of service in the dining rooms for nurses and the staff was adopted after much investigation and study. The nurses' and staff dining rooms are on the main floor and dining rooms for nonprofessional help are on the street level floor. Tables with black glass tops will be used in these rooms.

Adjoining the main kitchen is a metabolic diet kitchen, where food is prepared for special diets.

The refrigerating plant is in the sub-basement



*Above is the surgical dressing room from which all dressings are dispensed. The sterilizing room below is located between two operating rooms and serves both.*



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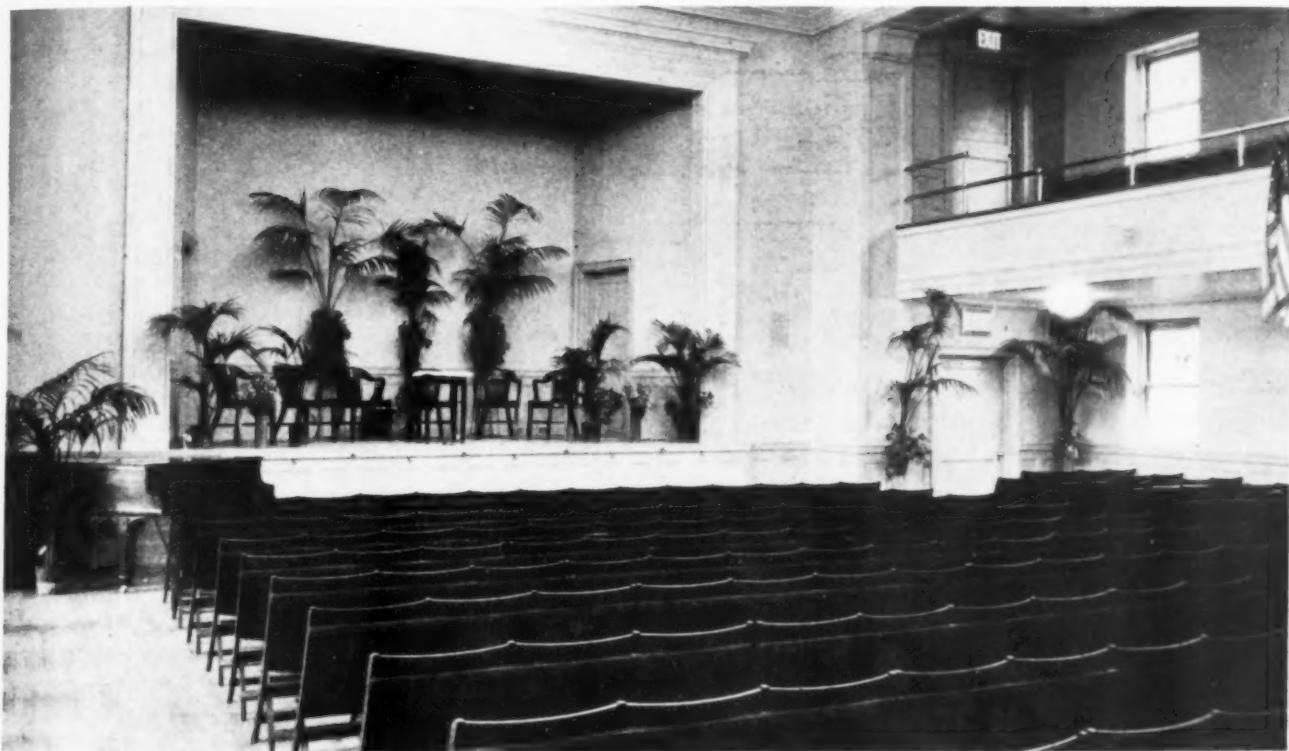
of this building and has a capacity of fifteen tons of ice a day. In addition it is the base of the circulating system which supplies ice water to several parts of each floor. Carbon dioxide is used as a refrigerant. The system also provides the cooling facilities for an ice cream making machine, insuring a constant supply of this confection which is often essential to the diet of the sick. The hospital buys its food in large quantities and there are separate storage places for dairy products, vegetables and meat in this refrigerating plant.

The cafeteria for clerks and employees and the guest cafeteria are on this level. A central dish-

stores are near the end of the connecting corridors in the basement, convenient to the entrance on Saint Marks Avenue, where all deliveries are made.

The storeroom is equipped with steel shelving and furniture. The rooms connecting with the old hospital will also be used for stores. An electric motor truck has been provided to insure immediate deliveries of materials.

The nurses' residence hall is eleven stories high and provides living quarters for 200 pupil nurses. In the basement are a swimming pool, locker rooms, a trunk room and a small laundry for the personal use of student nurses. The first floor is



*The Dr. Leon Louria Memorial Auditorium has a seating capacity of about 400. This hall will be used for lectures and postgraduate work.*

washing plant, equipped with a modern dishwashing machine, is located here. To this plant the dishes throughout the hospital are brought for cleansing, after which they are immediately returned to the floors where they are used.

The ambulance entrance to the hospital is by a driveway approach which gives access to the emergency and accident rooms. These rooms are so equipped that they form a small hospital in themselves. Two members of the house staff have their quarters near this suite and thus are available for immediate duty.

The entrance for visitors to ward patients is at the westerly end of the hospital building and gives access to a commodious waiting room.

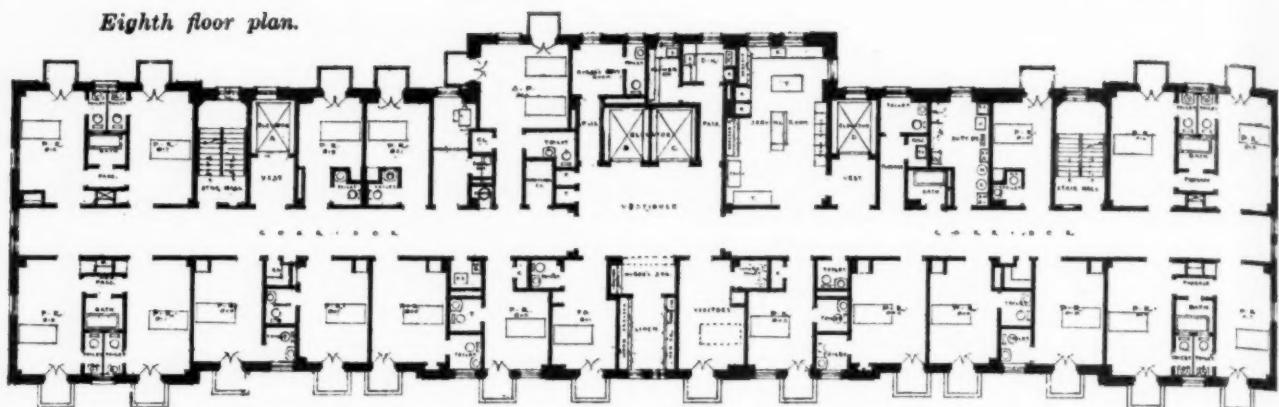
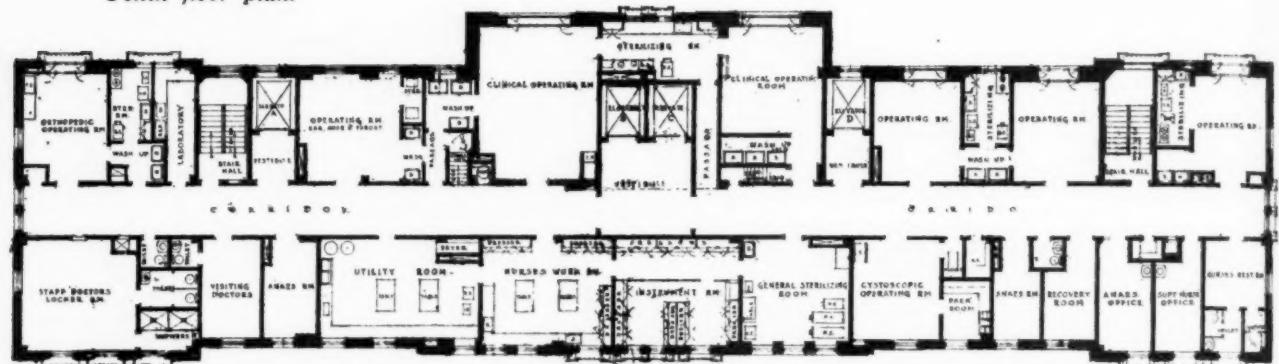
The facilities for the keeping and issuance of

devoted to a reception room, fiction library and living rooms. There, also, are the quarters of the residence director and an alumnae room.

The second floor is devoted to teaching and here will be found classrooms, demonstration rooms and chemical and dietetic laboratories, also a study room and a technical library. Above this floor are the living quarters of the nurses, 200 beds in all.

Each nurse will occupy a single room, tastefully furnished. The supervisors and the superintendent of nurses have suites. Every room is equipped with a lavatory and closet and there are spacious showers on each floor.

Each bedroom floor contains a kitchenette and sitting room. Every effort has been made to

*Eighth floor plan.**Tenth floor plan.*

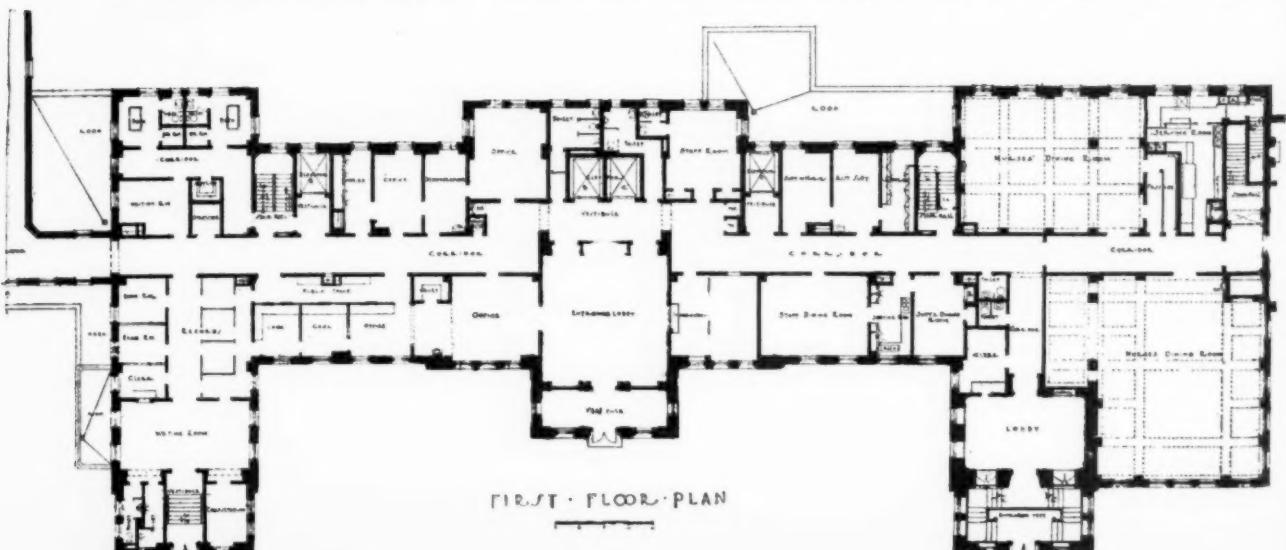
give the home atmosphere to a building that will be the home of the student during her course of two and one-half years.

On the Saint Marks Avenue side of the hospital will be found the Dr. Leon Louria Memorial, an auditorium seating about 400 people. As the hospital is rapidly becoming a teaching center, this hall will be used for lectures and postgraduate work. It will also be available for social gatherings for the nurses and others. Moving picture and projecting machines are placed in the balcony.

On this side of the hospital proper is also the

building in which the house staff and the non-professional employees are quartered. This building houses the new central power plant. Here six stories are given over to living quarters with every facility for comfort.

The power plant occupies the entire basement. The boiler room contains four high pressure boilers at 200 h. p. each. Modern devices have been installed for the bunkering of coal and for automatic feeds. The power room contains two 150-kilowatt generators and two 75-kilowatt generators. These generators will be run alternately for day and night service. A spacious pipe tun-



nel with 7-foot head room connects the power plant with every hospital building.

Adjoining this building is the new hospital garage, containing space for six cars, as well as living rooms and bedrooms for the chauffeurs.

The present private pavilion known as the Abraham Abraham Memorial is to be devoted to maternity service exclusively.

The building formerly used as the nurses' training school will be altered and reconstructed and used solely as the children's hospital, with a capacity of seventy-two beds. During the year 1928 about 2,500 babies were born, one-half of which were boys, giving an average of three babies per day.

The old main building fronting Classon Avenue will be reconstructed and the first three floors will be entirely devoted to an enlarged and up-to-date dispensary.

In planning the hospital particular attention was given to the care and comfort of out-patients. Large spaces have been devoted to the major clinics, and the great public service that this hospital has rendered in the past will be increased by reason of these changes.

The space now occupied by the operating suite will be transformed into a pathological laboratory. Provisions have been made for lecture rooms and study rooms for students, with every facility necessary for the proper conduct of this branch of diagnostic service.

## Why the Coroner's Office Should Work With the Hospital

Every large hospital is confronted daily with so called coroner's cases—patients who are in the hospital less than twenty-four hours, and with a questionable diagnosis that might be cleared up by autopsy. Yet the coroner's office is not only satisfied with a questionable diagnosis, says the *Pennsylvania Medical Journal*, but will often supply it, when the hospital authorities confess their inability to give it, rather than allow a postmortem examination.

"No medicolegal aspect attaches itself to these cases," the article continues, "other than the sudden death with an atypical or unrecognized onset of some acute condition, either medical or surgical, which has not been diagnosed in the short time such patients have been in the hospital. Autopsies on such patients would be of inestimable value to the interns, to the staff and to medical students, since it is just such cases that physicians are called upon to treat in emergencies in their practice. A wealth of valuable clinicopathological material for educational and statistical purposes is going to waste because the coroner's office will not see its way clear to give such autopsies to hospitals and medical schools."

Hospitals approved by the Council on Medical Education and Hospitals, American Medical Association, must perform at least 15 per cent of autopsies annually. Here especially is need for the cooperation of the coroner.

Often the reason for the coroner's lack of cooperation may be due to the fact that he has attached to his office salaried physicians, political appointees, who are paid whether they perform any autopsies or not, it is pointed out. Their interest in work is therefore negligible. The coroner supports them in their attitude and refuses to give permission for an autopsy even in borderline cases. On the other hand the pathologic department of the hospital would gladly do the postmortem and send a copy of the findings to the coroner.

Sometimes the physicians attached to his office are not salaried but receive a specific sum for every autopsy. This naturally keeps the coroner from giving permission for a postmortem.

In some places, medical examiners take the place of the coroner. An examiner is paid separately for postmortems. To prevent unnecessary expense to the county, the examiner must get permission from the district attorney to do an autopsy. Here, too, the hospital pathologist would gladly do the postmortems and send the findings to the medical examiner.

## Is Compulsory Insurance of Motorists Practical?

Sir Arthur Stanley, London, an authority on hospital management, thinks that compulsory insurance of motorists would prevent the huge annual loss the hospitals incur in treating accident cases and for which they are not paid, an item in the *Journal of the American Medical Association* relates. This method, however, has been carefully examined and is believed not to be practical because of the large number of persons involved in road accidents who are not motorists and thus are not insured.

Recently 4,000 motorists made a gift of \$2,500 to Newcastle Infirmary where it is said that motor accidents cost that institution \$25,000 a year.

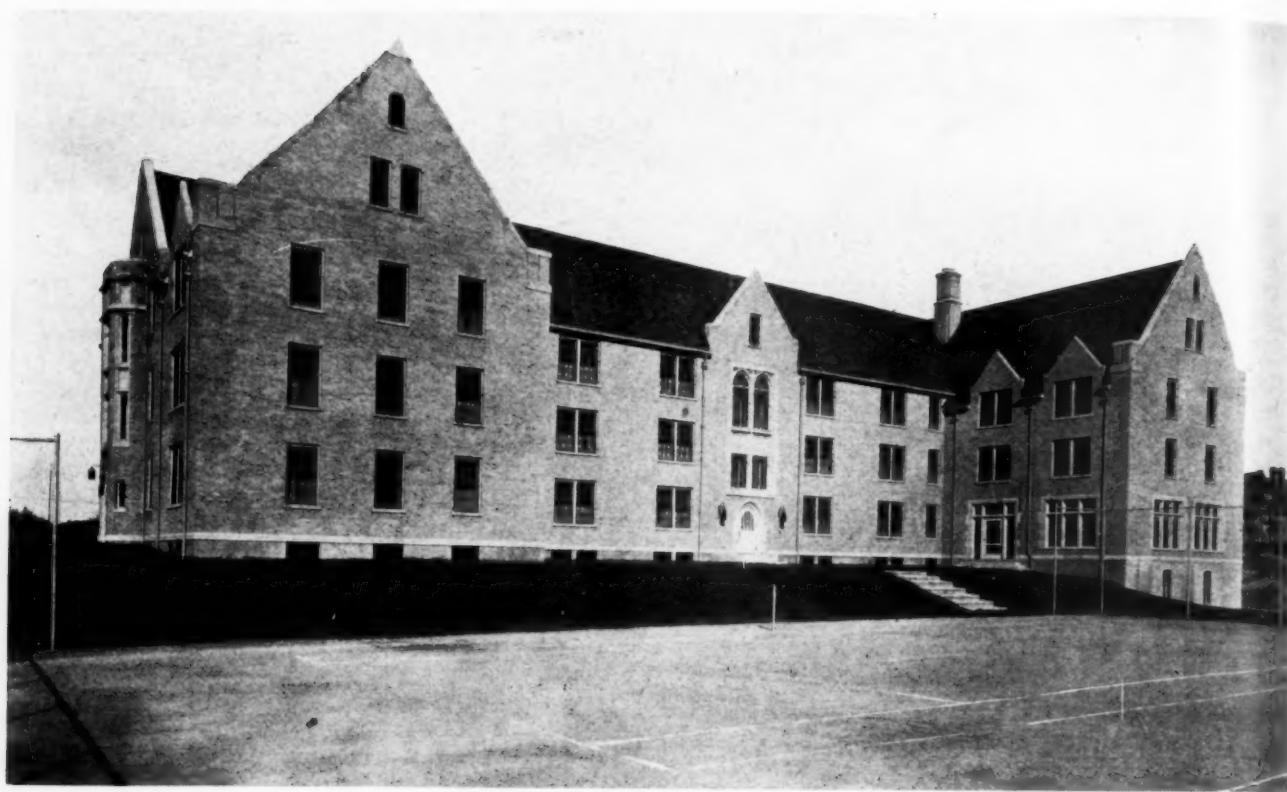
Returns from 100 provincial hospitals show that during 1927, 26,000 patients and 39,000 out-patients, motor accident victims, were treated at a cost of \$1,150,000, toward which \$130,000 was received from or on behalf of the patients.

## United States Ranks First in the Hospitalization of Citizens

"No other nation has gone quite so far in the hospitalization of its citizens," Major General Frank T. Hines, director, United States Veterans' Bureau, emphasized at the recent annual meeting of the medical council of the bureau.

"The program for veterans' relief constitutes a challenge to the medical profession to bring out a service of the first order and primary efficiency among the hospitals of the country," he said. "The federal government should be first in every particular in its service in carrying out the hospitalization program."

He said the effort has been to concentrate on establishments satisfactorily located rather than on increased number of hospitals. He said that the facilities at the hospitals have been modernized and that Congress has been generous in its authorization and appropriations, including the provision of approximately \$76,000,000 in funds for hospitalization since 1919.



## *When You Build, Consider—* The Comfort of the Personnel

By STANLEY MATTHEWS

Matthews & Short; Elzner & Anderson, Architects, Cincinnati, and

ELIZABETH PIERCE

Superintendent, Children's Hospital, Cincinnati

IN SELECTING a site for Vincent Hall, the new dormitory for nurses and other personnel of the Children's Hospital, Cincinnati, it was necessary to effect a compromise. On the one hand it was realized that hospital workers would benefit by escaping from hospital surroundings during their hours of recreation and by a walk in the outdoors to and from a home located at some distance from the hospital; on the other hand, it was felt that time and effort would be saved by having the home and the hospital on the same property. It was felt, too, that the convenience of being able to pass from one building to the other by a passageway in inclement weather and at night was a distinct advantage and, in the final analysis, the latter considerations outweighed the former.

Other factors in favor of the site selected were: (a) its height of nearly twenty feet above the avenue, which throws the building well above sur-

rounding structures to the north and east, thus increasing its privacy; (b) a fine, unobstructed view to the west across the hospital property; (c) an almost continuous row of houses on the north line, which deaden sound between the property and a rather busy intersecting street beyond, and (d) the presence behind the building of a piece of ground sufficiently level to be economically graded for tennis courts.

It was hoped by careful planning of the building and attention to landscaping to offset the loss in the way of space between the home and the hospital.

The architecture of any building should announce even to the casual passer-by its reason for existence without the necessity of a sign of any kind. As a matter of fact, the design of a building is to a certain extent dictated by the uses to which it will be put.

The question of size being fundamental and

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far-reaching in the design of any structure, the capacity of Vincent Hall was the next point to be considered. It was necessary to provide for both the present and the future as the hospital building was planned for expansion and the home should be designed correspondingly.

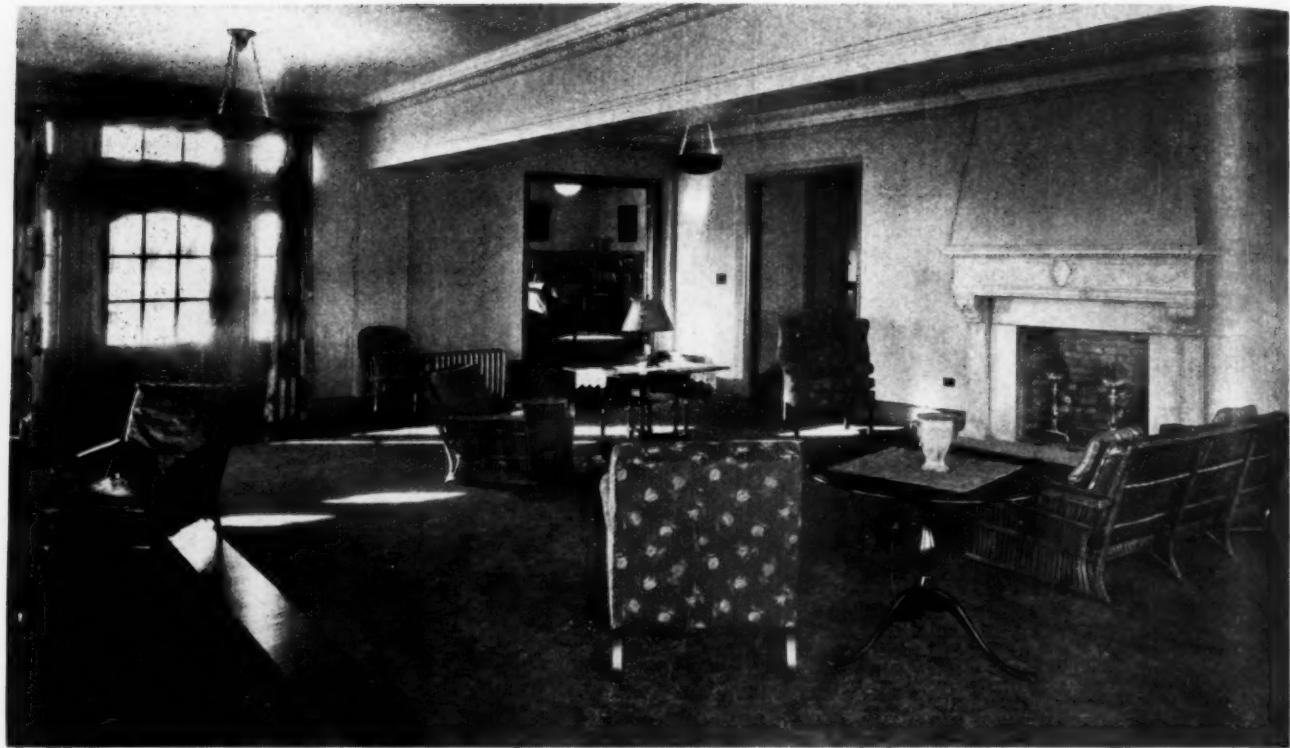
These considerations had a distinct bearing on the shape of the plan adopted, both from the standpoint of cost and of appearance. The modified H plan, with two wings which project slightly to the east, allowed a symmetrical street front and a permanent living room to be built

now, while the north wing was so planned that by merely changing the windows at the ends of the corridors to doors, on each floor, more bedrooms may be provided without altering or increasing other facilities.

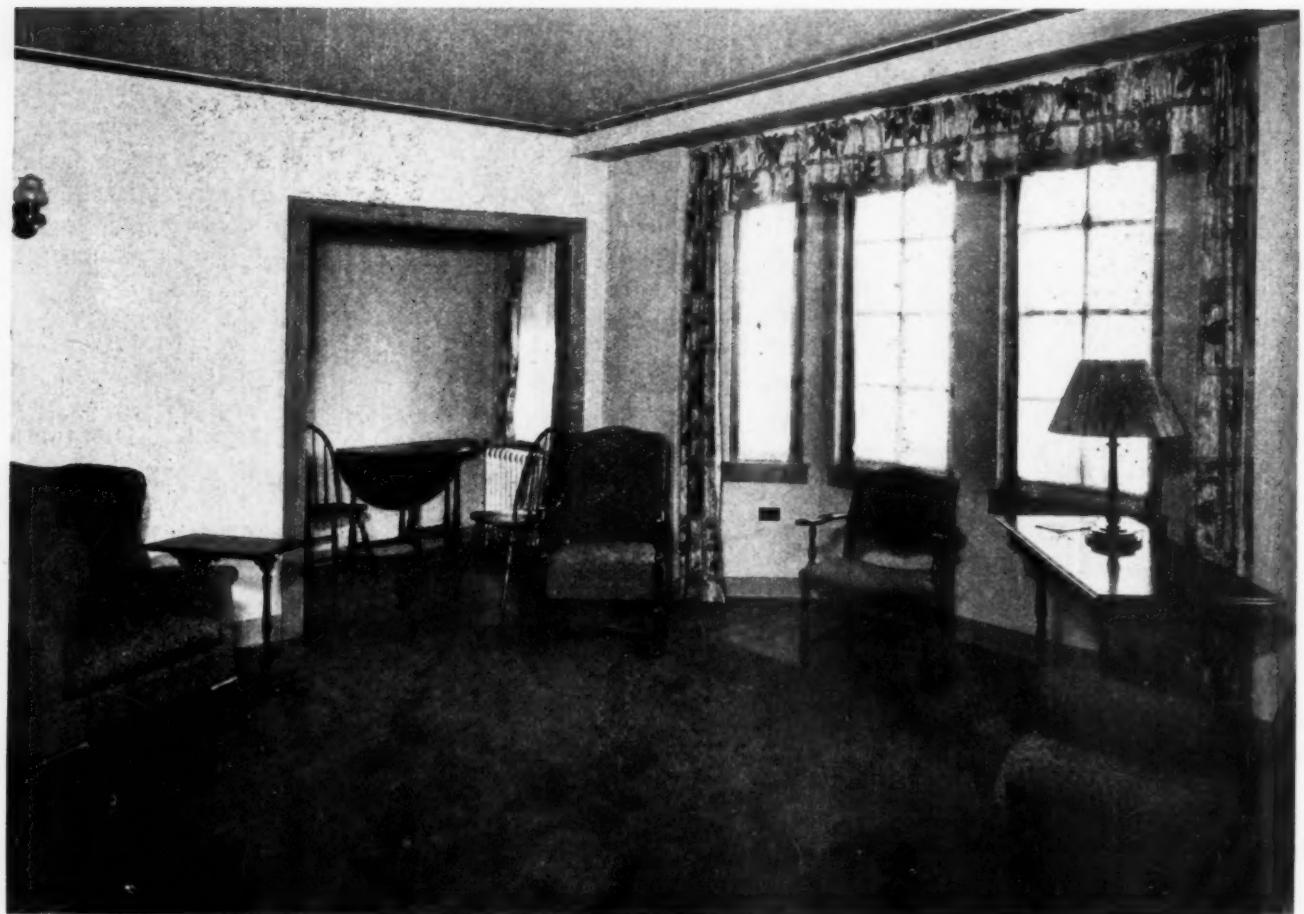
The area was the next factor to be considered. The choice lay between a three or a four-story building. Both schemes were studied and a decision made in favor of the lower structure with larger area. The deciding factor was the matter of elevator installation, which seems essential for any home over three stories in height and which



*The entrance rotunda, showing the gracefully arched doorways and the pleasing arrangements of the office.*



*Above is shown the south end of the main living room looking into the library. One of the nurses' living rooms on an upper floor is shown in the lower photograph. This room has an adjoining kitchenette.*



yet brings in its wake many vexing problems of administration, upkeep and morale, not the least of these being the removal of the building from the home to the apartment or institutional class with a resultant loss of homelike quality.

The term "home" as frequently employed today is much abused. The word "house" as applied to a dwelling of any kind seems to have been practically outlawed by the American realtor who announces through the medium of garish

ical conditions under which the occupants themselves may have the best chance of creating and enjoying a truly homelike atmosphere. Such a homelike effect is not always easy to create even for an ordinary family, and the problem becomes increasingly difficult as the "family" becomes larger and less homogeneous. Still it is an ideal that must not be forgotten if satisfying results are to be obtained.

Granting that when one has the task of dis-

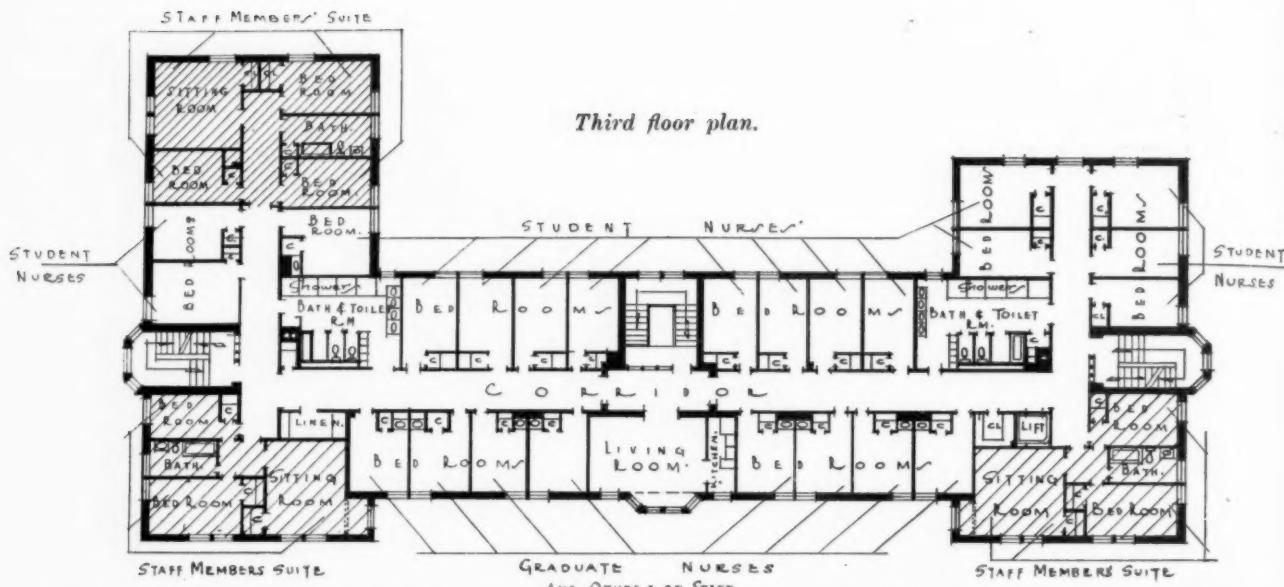


*Larger dressers and desks are used in the rooms of the graduate nurses than in the students' rooms.*

billboards that he is a dealer in homes, a statement which is, of course, as extravagant as it is naïve since he is claiming to have achieved a result almost entirely beyond his control, a home being a strictly abstract thing dependent upon the character and spirit of the as yet unknown future occupants.

While no architect or builder can therefore claim to have created a home as a mere matter of design, we believe it to be his legitimate privilege to take serious thought as to how the architecture both inside and out can be made to play at least some small part in producing the psycholog-

tributing forty to fifty bedrooms in an orderly and economical manner down both sides of a connecting corridor, it may be impossible to obtain a homelike atmosphere, a great deal has nevertheless been done along such lines in some of the more recent college dormitories and the same principles should be applicable to a nurses' home. A domestic character is obtainable in a practical manner by the roof treatment alone. Ask a small child to draw you a picture of a house and whatever he may omit in the way of essential structural features, he is practically certain to make at least a valiant attempt to include some kind



of a pitched roof and one or more profusely smoking chimneys. From the earliest childhood of those of us who inhabit the temperate zones, these two things have been the outward symbol of home, so much so in fact that the words "roof" and "hearth" are universally accepted as synonyms for the complete structure.

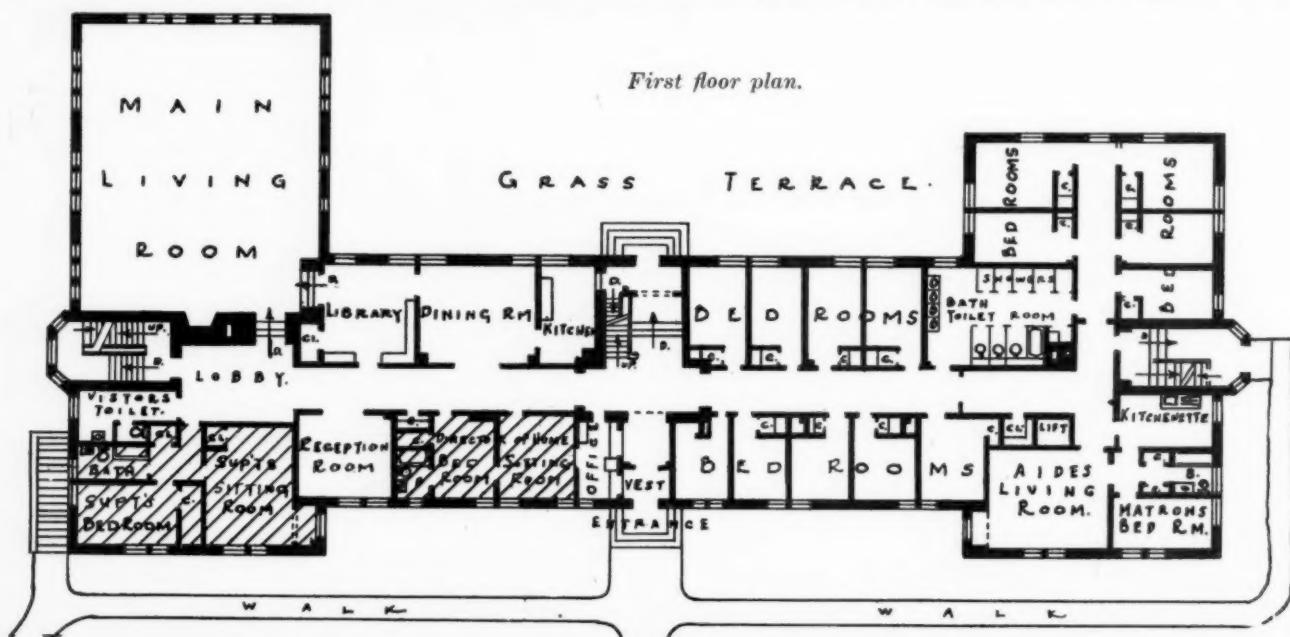
### *Dormer Windows Have Pleasing Effect*

The domestic appearance of the building was also accentuated by dropping the cornice level on the east side and by the use of dormers, which did not change the floor plan but gave the effect of a two and a half-story building.

With regard to the interior of a building having a large number of small rooms of nearly equal size, economy of plan and convenience of service are paramount and demand a fairly formal and

symmetrical arrangement. The domestic note is therefore likely to be struck most successfully through the medium of interior decoration and furnishing than by any special effort in the way of strictly architectural features. The most difficult thing to domesticate under our present building laws is the modern fireproof stairway with its enclosures of metal and glass and self-closing doors. While the legal requirements are entirely reasonable and distinctly necessary, they tend to give an institutional atmosphere, unless carefully treated. This effect was overcome in the center stair by enlarging the enclosure to include the entire lobby.

The construction is fireproof up to the third floor ceiling, only the attic floor joists and roof rafters being of wood. The exterior walls and bearing walls are of brick and tile on poured con-



crete foundations and the floor construction generally is of metal lumber, reinforced concrete being used only in the form of a flat slab in corridors and in the usual metal dome construction in the first two floors of the living room wing. Terrazzo was used for the finish of the corridors, stairs and bathrooms, the flooring elsewhere being generally of wood, with a cove base of painted cement. The wood trim and doors are of birch.

The cost of the building, unfurnished, was almost exactly fifty cents per cubic foot. It contains no boilers, as it is heated from the hospital, but this cost includes bringing the mains under the ground from the hospital boiler room nearly two hundred feet away. It is estimated that the

similar suite on the south front of the building. The director of nursing has the same suite on the second floor. This suite has a second bedroom which is used as a guest room. There is another suite on the north front and two such suites on the third floor in the same location. A four-room suite is at the west end of the corridor on each of the second and third floors. The floor plan shows the arrangement of space.

It is interesting to note that 45 per cent of the building space, not counting stairways, corridors and exterior walls, was used for sleeping rooms, 25 per cent for recreation rooms, 20 per cent for toilet and housekeeping and 10 per cent for storage.

Under recreation have been grouped the main



*The recreation room has a cozy fireplace and a fine dancing floor, making it a cheerful place for parties and receptions.*

four-story scheme would have saved approximately 8 per cent net, after allowing for the additional cost of the elevator installation. Alternate bids were taken on a flat roof for the present three-story building, and this would have saved only about 2 per cent net, owing to the additional height of the brick walls and parapet which would have been required.

For the nurses' aids accommodations were planned in a single, self-contained unit taking up the north half of the first floor, and including a separate laundry on the ground floor. A corner room with bath was provided for the house mother to the nurses' aids, who also holds a position in the hospital.

The suite of the director of the home, consisting of three rooms, is adjacent to the main office. The superintendent of the hospital occupies a

living room, the library, the reception room for callers, the dining room adjoining the library, where a resident member of the staff can entertain visiting friends or relatives with a meal of her own planning or preparation, the aids' living room and the living rooms for students and others on the second and third floors and the large recreation room on the ground floor with its big fireplace and sunken hearth. This room was designed for informal gatherings of all kinds, including dances, which can be held there without disarranging the living room above. Under this classification have also been put the long corridor and unassigned space on the ground floor. The space will permit of bowling alleys, but at this time is being much used for a skating rink, indoor golf and such games as shuffleboard and rubber quoits.

Under housekeeping are included the office, the kitchens and kitchenettes, the bath and toilet rooms, the janitors' closets, the sewing room and the laundries. The kitchenettes adjoining the nurses' and aids' living rooms are for light refreshments only. The kitchens adjoining the recreation and dining rooms are to be used for serving refreshments during social activities and for occasional meals for small groups.

Food storage space is needed only for temporary supplies brought in by the nurses for immediate consumption, so a small electric refrigerator in each kitchenette above the ground floor gives adequate space, with sufficient room for ice for ice water. A large ice box in the kitchen off the recreation room makes it easy to serve large numbers. The two kitchens have ranges and the kitchenettes have electric plates.

Two janitors' closets, with hoppers, are placed on each floor. An incinerator opening is on each floor. A clothes chute was not provided as the use of this did not conform to the plan of caring for soiled linen, which is carried to the ground floor by means of the lift.

#### *Sewing Room Is on Ground Floor*

A large common sewing room, equipped with a cutting table, mirrors and sewing machines, is on the ground floor. Two laundries of the ordinary residence type, one for nurses and the other for aids, are on this floor. These rooms are kept locked and the key can be procured from the office by presenting a signed request. The trunk room is on this floor and the key may be obtained in the same way. The trunk room is divided and has separate doors into sections for nurses and aids.

All other storage space is in a roomy attic under the pitched roof. A baggage lift from the driveway entrance level to the attic is provided for the moving or storing of furniture.

Little need be said of the mechanical equipment as it differs only in quantity from that in use in the ordinary residence. Only a few points, therefore, which have proved especially satisfactory will be referred to.

The matter of outside telephone calls was handled by placing but one instrument in each wing to be used in conjunction with a buzzer signal system, with a drop indicator in each bedroom together with a push button, operating an answering signal buzzer in the main office. This eliminates the ringing of the telephone in all but the main office.

Another electric signaling device has been found of great convenience in controlling the entrance doors, two of which are at opposite ends

of the building, entirely out of sight of the person in the office. These are fire exits as well and must not be locked on the inside. Even when locked from the outside, therefore, it is still possible for a person without a key to be admitted by someone from within the building. Jamb switches were placed on all outside doors operating a buzzer in the office, so that after they have been closed for the night they cannot be opened from either side without the knowledge of the person at the office desk.

A most satisfactory system of locking the bedrooms and closets was worked out. A single key opens both the room and closet doors. The master key opens only the room door, insuring the occupant absolute privacy so far as the closet is concerned as long as her key is in her possession. The only duplicate key is kept in the safe of the administrative department of the hospital, so a lost key means application for this key, which may be issued only to the occupant of the room herself.

The wall surface is sand finish plaster in all rooms south of the entrance corridor on the first floor and in the recreation room on the ground floor. Smooth plaster is used in all other rooms. The entire interior is painted a warm gray with the exception of the bathrooms and kitchenettes. In these ivory enameled paint was used.

The wood trim is stained a light ash color which harmonizes well with the general color scheme.

#### *How Bedrooms Are Furnished*

The bedrooms, the smallest of which are 8 by 14 feet, including the closet space, are comfortable and attractive. The cost of furnishing these rooms was \$158 each for the graduate nurses' rooms and \$145 for the rooms for students and aids. A larger dresser and a desk with more bookshelf space is placed in the rooms for the graduate nurses who may be considered the permanent staff, the students remaining but four months. Regular sized beds instead of day beds were used for the bedrooms of the suites at an additional cost of \$26.50, which includes box springs. These costs are exclusive of bed linens and curtains, but include rugs and glass tops for dressers.

The furnishings for the bedrooms were selected before the wiring was done. Cut-outs of cardboard were made to the scale of the plans and these were used in placing the wall plugs for desk and bedside table lights, so that the occupant of the room might have some leeway in the arrangement of the furniture and yet not be forced to use that bugbear of so many homes—extension

cords for lamps. Wall plugs for attaching curling irons were placed under each lavatory mirror. Lockers in two tiers, each locker 12 by 12 by 30 inches, were placed in the bathroom for the use of all those in rooms without running water. The lockers are marked with numbers corresponding to the room numbers, and are of the usual type with full louvered door, with the special feature of three hooks, 7 inches long and 4 inches from the top. These are for the towels and wash cloth, while the floor of the locker is used for the toilet articles.

The furnishings for each division are shown in the accompanying illustrations. The help of an interior decorator was secured for the main living room, the library, the reception room and the director's office. In all of the furnishings the selections are proving not only attractive but practical.

Vincent Hall has now been occupied for one year and the residents with one accord proclaim it a home in the fullest sense. The board of trustees is well pleased with the type of building it has provided.

## Who Should Schedule Operations and How Should This Be Done?

Numerous methods for the scheduling of surgical operations are in vogue. This procedure not only involves the actual reservation of an operating room for a definite period, but also the dissemination of information as to the day's schedule. The supervising nurse in the surgical department should be one of the first persons to be informed that an operation on one of the patients under her charge is contemplated. It is she who must make plans for the proper preparation of this patient. She should be given adequate notice on the day prior to an elective operation, so that each detail of her preoperative technique can be carefully carried out. In the case of emergency procedures, it is she who will be able to prevent loss of time by promptly preparing the patient for his journey to the operating room.

When a surgeon has informed his intern that he will undertake some surgical step on the succeeding day, this information should be immediately placed upon the patient's chart. If the ward nurse is not present when rounds are being made, a slip telling her of the contemplated action should immediately be placed in her hands. The surgeon and his intern then proceed to the operating room board and officially reserve the operating room for the hour decided upon. If there is no room available at this time, the surgical ward supervisor must be notified of the changed hour and date.

The operating room supervisor at the conclusion of her day's work is able to assign, if this has not already been done, the room in which the various surgeons will work. It is also necessary to plan for the prompt presence of an anesthetist. Hence, the chief anesthetist must also be informed concerning the plans for the next day. If, as is the case in many cities, a surgical roster informing visiting surgeons as to the operations to be performed in the

various urban institutions is published, it is the operating room supervisor's duty to see that the information concerning her hospital's surgical work for the succeeding day is placed in the proper hands.

It is unjust both to the patient and to the hospital for surgeons to be dilatory in scheduling operations. Not only does this practice lead to confusion in the work of the operating suite itself, but it also makes it necessary to carry far into the night the work of preparing patients. It is a wise step to insist upon the meticulous adherence to rules that have been adopted covering the scheduling of operations. Inconvenience to ward and clinical personnel is thus avoided, and the comfort of the patient is enhanced.

## Promoting More Attractive General Duty for the Nurse

Promoting a more attractive general duty service for the graduate nurse is the theme of a paper by Anna D. Wolf, R.N., in the *American Journal of Nursing* and among the suggestions that Miss Wolf makes are the following:

A responsibility on the part of nursing executives in building up a higher status for the general duty nurse; letting the individual nurse feel that she will be given an opportunity to enter the service she prefers; planning toward a 44-hour working week, with a vacation period provided for continuous service; adequate pay with an increase for satisfactory tenure of service; opportunity for educational advancement through class work in a neighboring college or university or through a staff educational program; limiting the services of the graduate nurse to those requiring a professional background, thus relieving her of much monotonous and uninteresting work; encouraging self-expression and recognizing individual capacities.

## The Increasing Tendency Toward Medical Research in Hospitals

The increasing tendency toward medical research is of serious moment in hospital circles, according to *Hospital Social Service*. Formerly all hospitals had one objective—to treat, and if possible, to cure the sick. That humane objective is being more or less obscured, the article says, by scientific research that takes up more hospital space, consumes more time of the professional and administrative personnel of the hospital and adds to the financial burdens of the institution.

Medical research is important, the article emphasizes, but it should be carried on by laboratories properly equipped, amply endowed and adequately manned.

Two distinct types of hospitals are needed: (1) Research hospitals, these to include all university and postgraduate teaching hospitals, hospitals especially endowed for research purposes and special hospitals with a single or special mission, such as cancer, tuberculosis or mental diseases; (2) voluntary, federal, state, city and county hospitals, except those which have an especially endowed laboratory department, should adhere to their appointed task of treating and curing the sick; however, they should, as an auxiliary to that service maintain modern laboratories for routine hospital work.

# When You Build, Consider— How to Achieve Quiet Surroundings\*

By CHARLES F. NEERGAARD  
New York City

NOISE, a barbaric consequence of civilization, has become a major problem in our cities and in all of their buildings, particularly hospitals. The trouble is worldwide. Prof. H. T. Spooner, a London authority on industrial fatigue, scores noise as "the most inveterate thief of health." The U. S. Bureau of Standards, Washington, D. C., following exhaustive research on noise in industry, predicts that "the engineering of silence may become a recognized branch of applied physics."

In the hospital where the comfort, even the life of the patient demands quiet, the situation is particularly acute. After every critical operation, the first demand of the surgeon for his patient is absolute quiet. Yet in our structures we seemingly do all we can to make this impossible. The density and rigidity of fireproof building materials produce an interior finish that is a perfect reflector of sound and magnifies noise. Vibrations are carried through monolithic construction with little loss of intensity. Pipes, conduits, columns and girders are excellent conductors.

## *Modern Structures Intensify Sound*

It is too common a tragedy for a new hospital, architecturally beautiful, skillfully planned, radiating color and warmth, to prove a bitter disappointment to its creators, when opened to patients, because of intolerable noise. Low voices, intensified, echo from afar down the smooth unbroken corridors. The slam of a door, the clatter of dishes, the crash of a carelessly dropped utensil, penetrate throughout the structure.

Every new hospital should be designed and built to ensure quiet. What are the best measures for noise prevention? Every old hospital suffers from noise. What are the best measures for cure?

This study was undertaken in an attempt to answer these questions—to determine how quiet can be achieved most practically and economically, considering the important factors of first cost, permanent results and expense of maintenance. Reports of the U. S. Bureau of Standards and publications of many recognized acoustical au-

thorities have been consulted. Architects, engineers and builders who have given special thought to architectural acoustics, have contributed much. The engineering departments of the various firms, whose systems are here discussed, have given cordial cooperation. Some ten hospitals and twenty other buildings, using acoustical measures, were inspected and the effectiveness of the treatment and the difficulties of cleaning carefully investigated.

## *Available Literature*

The authoritative literature on acoustics presents a bewildering mass of data expressed in scientific terms, rather incomprehensible to the layman. It is our purpose to outline, in nontechnical language, some of the findings of the physicists and the achievements of the manufacturers, to suggest their practical application to quieting the hospital and to raise some pertinent questions that are as yet unanswered.

First we should consider sound itself. Sound waves travel by air 1,100 feet per second, and through solid matter at an even greater speed. To quote a leading authority, Floyd R. Watson, professor of experimental physics, University of Illinois, "Sound generated in a room proceeds outward, in spherical waves from the source to the walls, where it is reflected, absorbed and transmitted. The reflected sound proceeds to a second wall, where it is again reflected, absorbed and transmitted, and so on, experiencing from 200 to 300 reflections for an average sound."

A logical approach to the problem of controlling hospital noises is the always illuminating job analysis. What are hospital noises? First there are the noises from without, ever on the increase, which indicate the importance of locating a new hospital in a quiet neighborhood. The open window welcomes all too kindly every rattle and rumble of passing truck or trolley, the raucous automobile horn, all of the clamor and din of our busy communities. Hospital zones of quiet, usually more honored in the breach than the observance, may help, but generally speaking there is no relief for the patient except to keep the windows closed or see that these outside sound waves are

\*This is the first of two articles on noise in the hospital. The second article will appear in April.

promptly and effectively absorbed as they enter.

The inside noises incidental to hospital operation are many and varied. We may divide them into two groups, avoidable and unavoidable. In the first are loud talking and laughter in rooms and corridors, thoughtless inconsiderate acts of which, at times, all are guilty—doctors, nurses, attendants, patients and visitors. Given rigid enforcement of the universal rule, "Be Quiet,"

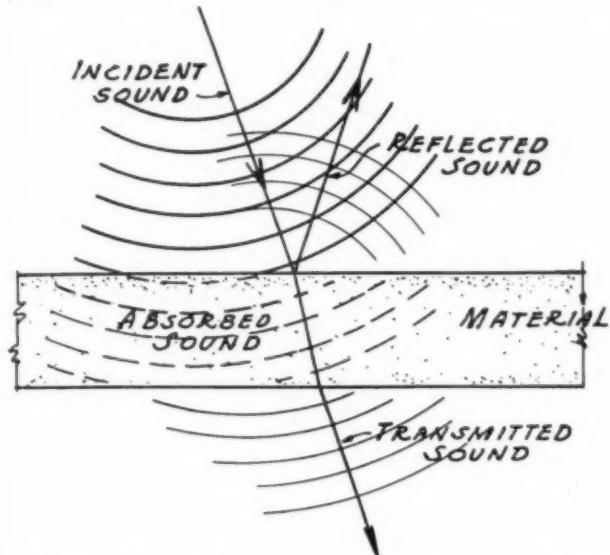


Diagram showing the action of sound waves on solid materials.

and proper hospital morale, these sounds can largely be controlled. There are many accidental noises, theoretically avoidable—the dropping of dishes and pans, the rough shift of a chair on the hard floor—which call for constant care on the part of all.

Next in the avoidable group are mechanical noises. How numerous these are many a sufferer can testify. Windows rattle, shades flap, radiators gurgle and pound, valves hiss, faucets drip, doors slam and latches clatter with every passing

draft. Such disturbances, and how often we find them in the best of hospitals, are inexcusable. Regular inspection by a careful handyman will obviate them to a considerable extent. The rigid control of avoidable disturbance will result in a marked improvement in any institution. Unfortunately the superintendent has so many other things to think of that unnecessary noises do not register on his ear drums so significantly as they should.

Now the unavoidable noises, added to those coming from outside the building, the groans and screams of the delirious and the suffering, the cries of infants and children, are perhaps the most disturbing psychologically. Many of these conditions may be isolated, walled off in quiet rooms. Noisy workrooms should be segregated in planning. How often we see patients' rooms immediately adjoining an elevator or a diet kitchen. When food is served and dishes are washed on each floor the resulting clatter is a major source of annoyance. With centralized food service it is happily removed from the patients' zone.

Vibration through the pipes and frame of the building is more readily avoided than corrected. In one hospital, through unwise economy, the power plant was placed in the sub-basement, although there was ample space for a separate building. In the still hours of the night a patient on the top floor at the far end of the building, distant 175 feet horizontally and 70 feet vertically from the engine room, could hear the pumps thumping and pounding as if they were in the next room. To a person standing beside them the pumps did not seem noisy. Faulty engineering had failed to take the simple precaution of insulating the pump foundations from the floor slab.

Another hospital went to considerable expense

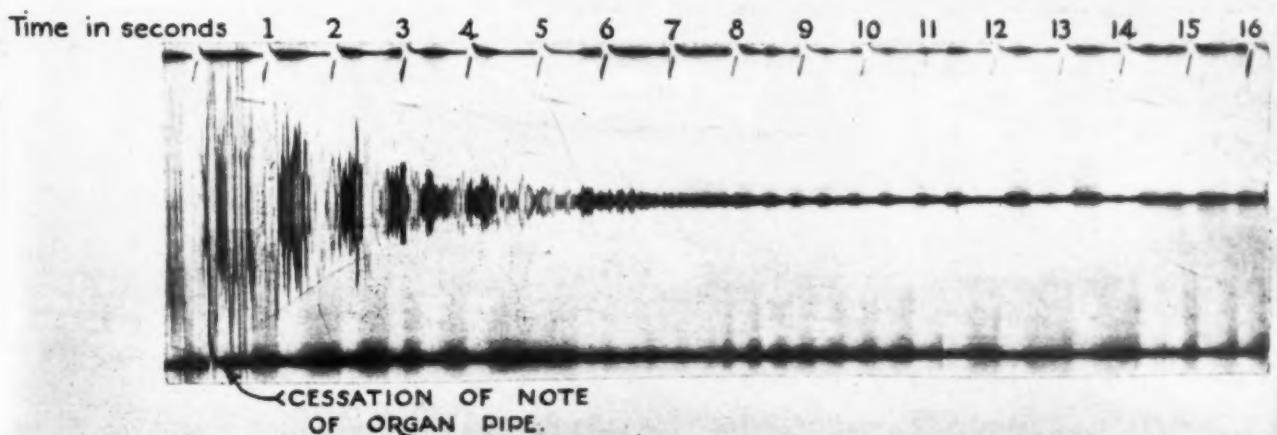


Diagram showing the diminution of sound waves from the note of an organ pipe as measured by the oscillograph in the reverberation chamber of the Bureau of Standards, Washington, D. C. At the expiration of ten seconds the sound became inaudible to the ear.

TABLE I—THE COST OF VARIOUSLY PROVIDING FOR EFFECTIVE ABSORPTION OF SOUND IN A NURSERY

Material	Per cent of Absorp- tion	Total No. of Absorb- ing Units	Cost per Sq. Ft.	Total Cost	Finished Cost of Plaster	Net Extra Cost of Acoustical Treatment	Net Cost per Acooustical Unit
Nashkote A, 1", felt muslin membrane, 720 sq. ft.	45%	324	70c	\$504.00	\$57.00	\$447.00	\$1.38
Nashkote B, 1", white felt, oilcloth membrane pinhole perforations, 450 sq. ft.	64%	288	80c	360.00	57.00	303.00	1.05
Acousti-Celotex, 1 1/4", oil painted, 450 sq. ft.	70%	315	75c	337.50	57.00	280.00	.89
Akoustolith plaster, 1/2", 720 sq. ft.	32%	230	44c	316.00	57.00	259.00	1.13
Sabinite plaster (New Brighton), 720 sq. ft.	30%	216	30c	216.00	57.00	159.00	.74

to fur all ceilings in the patients' rooms, but gave no heed to the steam risers which passed through five floors. An unprotected one-inch pipe will, it is said, transmit more sound than 150 square feet of unfurred ceiling. More quiet at less cost might have been secured if the ceilings had been left unfurred and the pipes covered with felt.

#### Measuring Absorption

We shall have to consider a few technical angles of acoustics. To measure sound absorption the physicists use as a standard the open window, which permits to escape and therefore theoretically absorbs all sound waves that reach it. One square foot of open window represents the accepted 100 per cent unit of absorption. Acousti-

cal materials are given coefficients, that is, they are rated at the percentage of sound that each blots up, compared to this standard. Sounds vary in pitch. Some materials are more effective for high pitched noises, others for low. All of the tables in this article are based on 512 vibrations per second, C4, the center pitch of speech and generally adopted as the best for acoustical measurements.

The conventional hospital room with its furnishings could hardly be worse if it were deliberately designed to intensify noise. Its rigid walls, bare floors and uncovered furniture offer no check to sound. How different are the conditions in a home or hotel.

The usual furnishings of a hotel room, 12 by 15

TABLE II—RELATIVE COST OF MAINTENANCE OF DIFFERENT MATERIALS

Hard finished plaster	Normal Conditions	Annual Cost	Cost per Sq. Yd.
50 sq. yds. Nashkote A—Muslin membrane, water color painted, which must be repainted after each washing.	Cleaning (sponging) at 5c per sq. yd. .... Four times a year ..... Repainting every 2 years, 2-coat work at 27c ..... Annual cost 1/2 .....	\$ 2.50 10.00 13.50 6.75	\$ 16.75 \$0.34
80 sq. yds. Nashkote B—Oilcloth membrane painted.	Cleaning (sponging) at 6c per sq. yd. .... Four times a year ..... Repainting at 30c per sq. yd. ..... Four times a year ..... Replacing membrane every 5 years, at 36c ..... Annual cost 1/2 .....	4.80 19.20 24.00 96.00 28.80 5.76	120.96 1.51
50 sq. yds. Acousti-Celotex BB—Finished in oil paint.	Cleaning (sponging) at 6c ..... Four times a year ..... Repainting every 2 years (stippled) at 27c ..... Annual cost 1/2 .....	3.00 12.00 13.50 6.75	21.00 .42
80 sq. yds. Acoustical plasters—Sprayed with special washable paint.	Cleaning (careful scrubbing and sponging) at 8c .. Four times a year ..... Repainting every 2 years (spray 1 coat) at 18c .. Annual cost 1/2 .....	6.40 25.60 14.40 7.20	18.75 .38 32.80 .41

These figures should represent maximum conditions in rooms where the ceilings and upper walls are washed four times a year.

On the basis of the computations as shown in Tables I and II, Nashkote A would seem to be barred out because of the high cost of both installation and maintenance, and yet it has been the most widely used of all of the felt treatments in hospital practice. The assumption that the muslin membrane must be replaced every five years, and the oilcloth of Nashkote B every eight years, seems conservative. In the cleaning test, the cement by which the membranes are attached to the felt, lost its strength after six or eight severe washings.

TABLE III—COMPARISON OF VARIOUS ACOUSTICAL MATERIALS

Name	Cost per Sq. ft. Applied	Coefficients of Absorption	Gain in Weight Following Scrubbing	Gain in Weight Following Soaking	Fire Resisting	Appearance
1. Nashkote A, 1", felt muslin finish...	70c	45% <sup>d</sup>	30%	75%	Yes	Fair
2. Nashkote B, 1", felt white oilcloth pin-hole perforations .....	80c	64% <sup>d</sup>	18%	100%	Yes	Good
3. Flaxlinum, 1" muslin finish.....	85c	61% <sup>a</sup>	.....	150%	Smoulders	Poor
4. Balsom Wool, 1", perforated steel membrane .....	65c	47% <sup>a</sup>	Entirely Disintegrated	.....	No	Poor
5. Acoustibloc, 1 1/4", painted .....	42c	43% <sup>b</sup>	.....	17%	No	Fair
6. Fibrofelt, 1", muslin membrane .....	65c	38% <sup>b</sup>	.....	211%	No	Fair
7. Acousti-Celotex BB, 1 1/4", oil painted..	75c	70% <sup>a</sup>	13%	60%	No	Fair
8. Acoustex, 1", poplar excelsior magnesite binder .....	55c	37% <sup>e</sup>	28%	58%	Yes	Fair
9. Akoustolith Plaster, 1/2" .....	44c	32% <sup>c</sup>	6%	14%	Yes	Good
10. Sabinite Plaster 1/2" (New Brighton). .	30c	30% <sup>d</sup>	11%	20%	Yes	Good

The coefficients of absorption used (that is, percentage of sound absorbed, as compared to one square foot of open window) are based on a pitch of 512 (C4).

Source of Coefficients: (a) Prof. F. R. Watson; (b) Manufacturer; (c) Bureau of Standards; (d) Prof. Paul E. Sabine; (e) Clifford M. Swan.

Cost figures cover material installed in the New York district. Prices necessarily vary with locality and quantity.

Scrubbing Test. Each material was scrubbed with soap, water and brush ten times, weighed before and after. The average increase in weight is the figure used.

Soaking Test. To determine the effect of leaks, samples of each material were weighed, and their thickness measured. They were then immersed in water for one hour.

feet, none of which are found in the hospital, would provide the quieting results equal to 72 square feet of open window<sup>1</sup>:

180 sq. ft. of carpet over ozite lining

at 25% absorption.....	45	sq. ft.
1 easy chair with 8 sq. ft. of upholstery at 100% absorption.....	8	" "
2 side chairs with 1 1/2 sq. ft. of cushion each at 75% absorption.....	2.2	" "
1 pair heavy lined window curtains		
28 sq. ft. at 60% absorption.....	16.8	" "
	72	sq. ft.

Clearly hospital standards impose a severe penalty.

These are our hospital noise problems; how may we solve them?

Sound is controlled in two ways, both of which are needed to secure quiet: sound insulation, the setting up of barriers against the transmission of noise from one room to another, which will be considered in a later article, and acoustical treatment, the covering of ceilings and walls with soft or porous materials to absorb the sound waves at the source.

Acoustical treatment is the major line of defense against noise. Until comparatively recently most of the problems presented to acoustical engineers have been in connection with the even distribution of sounds of different pitch throughout an auditorium, so to control and disseminate them that they would reach each auditor without loss

of tone or character. Churches, lecture rooms, theaters, concert halls, all have suffered from echoes and from poor acoustics, the effort to correct which has stimulated research in the past. Quiet in a room is accomplished by the same scientific principles.

In the hospital the aim is to eliminate sound rather than to control its distribution, to overcome noise at its point of origin, before it spreads and disturbs the patients, "to convert our corridors from megaphones to mufflers," as an acoustical advertisement puts it.

Acoustical materials may be divided into two groups: organic—felts and fibers and inorganic—plasters and tile. In this study ten different makes were considered, which used, respectively, hair felt; hair and asbestos; cane fiber; wood fiber; flax; gypsum and cement.

The felts and fibers are cemented or nailed to the walls and ceilings and variously finished; the plasters are applied over brown mortar.

As all of the available systems of acoustical treatment utilize soft or porous materials, they seemingly make it difficult, if not impossible, to maintain the traditional standards of cleanliness. Can we safely introduce into the hospital structural surface a material whose nature imposes any restrictions on cleaning and painting? Can it be kept sterile to bacteria and vermin?

By the process of elimination, which took into consideration all of the factors that the hospital must weigh in making its investment, the study focused on five different types of acoustical treatment. All of these are the products of firms long

<sup>1</sup> Based on Prof. Floyd R. Watson's "Table of Sound Absorbing Coefficients for Materials."

TABLE IV—SOAKING TEST

	Weight			Thickness			Weight
	Before	After	% of Gain	Before	After	% of Gain	After 72 Hours
<b>Felts</b>							
1. Nashkote A	4 oz.	7 oz.	75%	5/8 in.	11/16 in.	10%	Normal
2. Nashkote B	4 "	8 1/2 "	100%	5/8 "	11/16 "	10%	Plus 25%
3. Flaxlinum	3 "	7 1/2 "	150%	7/16 "	9/16 "	28%	Plus 33%
4. Balsam Wool	2 "	Entirely Disintegrated					
5. Acoustibloc	6 "	7 oz.	17%	1 1/2 "	1 1/2 "	0	Normal
6. Fibrofelt	4 1/2 "	14 "	211%	1 "	1 1/8 "	125%	Plus 70%
<b>Fibers</b>							
7. Acousti-Celotex	10 "	16 "	60%	7/8 "	15/16 "	7%	Plus 20%
8. Acoustex	12 "	19 "	58%	17/16 "	17/16 "	0	Plus 25%
<b>Plasters</b>							
9. Akoustolith	10 1/2 "	12 "	14%	6/8 "	6/8 "	0	Normal
10. Sabinite	5 "	6 "	20%	5/8 "	5/8 "	0	Normal
Each material was weighed and its thickness measured. It was then immersed in water for an hour, weighed and measured again after the drip had stopped. After three days each material was weighed again.							
After one hour soaking, the membranes of Nashkote A and B were noticeably loosened.							
After a second hour of soaking the cement had entirely lost its strength.							
<i>Steam Sterilization Tests in Hospital Autoclaves</i>							
Weight of sample before testing							269 122 Grams
Weight of sample after 30 minutes' sterilization at 180 deg. dry heat							265 115 "
Weight of sample after steam sterilization of 15 lb. pressure for 30 minutes at 121 degrees							265 115 "
Weight of sample 3 hours after the test							265 115 "
After these tests were made the appearance of the Akoustolith sample was the same, and there seemed little if any tendency for the material to crumble or disintegrate.							
The Sabinite showed slight softening after dry heat, but not after steam.							

and successfully identified with hospital problems and they will serve as examples. There are many other similar systems available and it is not necessarily a reflection on their value that they are not discussed in detail. The five treatments, identified by their trade names, may be briefly described as follows<sup>1</sup>:

Nashkote A consists of 1 inch of hair and asbestos felt which is applied to the ceiling or wall and finished with a muslin membrane, cemented to the felt and painted with a special water color paint. It has an absorption efficiency of 42 per

cent and costs 70 cents a square foot applied.

Nashkote B consists of 1 inch hair and asbestos felt, covered with a light surfaced oilcloth, cemented to the felt. The oilcloth is thickly perforated with "pinholes," about 7 1/2 per cent of the felt being exposed to the air. The surface of the felt is of white hair so that the holes are barely perceptible at a distance of 10 feet. It has an absorption efficiency of 64 per cent and costs 80 cents a square foot applied. The oilcloth can be stippled with washable oil paint without affecting the absorption, provided no film of paint is left over the holes. This requires great care on the part of the painter responsible for the work.

<sup>1</sup> The authorities for the coefficients of absorption used will be found in Table III, page 85. The cost naturally varies with the size and location of the job.

TABLE V—REPORTS FROM HOSPITALS IN VARIOUS CITIES SHOWING THE FREQUENCY OF WASHING AND PAINTING THE CEILINGS AND UPPER WALLS IN CERTAIN ROOMS WHERE ACOUSTICAL MATERIALS SHOULD BE USED

Hospitals	How Frequently Washed				How Frequently Painted			
	Corri-dors	Nurs-eries	Labor Rooms	Del. Rooms	Corri-dors	Nurs-eries	Labor Rooms	Del. Rooms
1. N. Y. City.....	Every 6 mos.	Every 3 mos.	Every 3 mos.	Every 3 mos.	Every 1 1/2 yrs.	Every 1 yrs.	Every 1 yrs.	Every 1 yrs.
2. " " .....	24 "	24 "	6 "	6 "	2 "	2 "	2 "	2 "
3. " " .....	12 "	3 "	3 "	3 "	3-4 "	3-4 "	3-4 "	3-4 "
4. Brooklyn .....	6 "	1 "	4 "	4 "	2 "	2 "	2 "	2 "
5. " .....	6 "	3-4 "	3-4 "	3-4 "	3 "	3 "	3 "	3 "
6. " .....	6 "	1 "	6 "	3 "	2 "	2 "	2 "	2 "
7. " .....	3 "	3 "	3 "	1 "	1 "	1 "	1 "	1 "
8. Port Chester .....	3 "	3 "	3 "	3 "	1 "	1 "	1/2 "	1/2 "
9. Rochester .....	1 "	3 "	1 "	1 "	3 "	1 "	1/2 "	1/2 "
10. Utica .....	24 "	24 "	24 "	24 "	2 "	2 "	2 "	2 "
11. Buffalo .....	6 "	6 "	6 "	6 "	2-3 "	2-3 "	2-3 "	2-3 "
12. Valhalla .....	12 "	3 "	3 "	3 "	4 "	2 "	2 "	2 "
13. Boston .....	12 "	12 "	12 "	12 "	2-3 "	2-3 "	2-3 "	2-3 "
14. " .....	12 "	1 "	12 "	12 "	2 "	2 "	2 "	2 "
15. Providence .....	1 "	1 "	1 "	1 "	3 "	3 "	3 "	3 "
16. Pittsburgh .....	6 "	4 "	4 "	4 "	2 "	2 "	2 "	2 "
17. Erie .....	12 "	3 "	3 "	3 "	2 "	2 "	2 "	2 "
18. New Haven .....	6 "	3 "	3 "	3 "	2 "	2 "	2 "	2 "

Acousti-Celotex is composed of compressed sugar cane fiber, in the form of large tiles. It is cemented and nailed to the ceiling. The tiles are  $1\frac{1}{2}$  inches thick and are drilled with  $\frac{1}{4}$ -inch holes, 1 inch deep, 441 to the square yard. The surface can be painted with a brush with oil paint, without loss of effectiveness, provided the paint does not cover or enter the holes. The absorption is 70 per cent and the cost 75 cents per square foot applied.

Acoustical plasters are available in two forms, precast tile and plaster mixed and applied on the job. The plaster is usually composed of irregular grains of pumice, bound together by cement or gypsum where the points touch. This leaves a

combating air borne sound waves. Which are the most appropriate for hospital purposes? There are many factors to be considered—effectiveness, first cost, permanency of the absorption and cleanliness.

To illustrate in a practical way the relative cost and value of the different materials, let us consider them as applied to a nursery, 15 by 30 feet, with a 10 foot 6 inch ceiling height. The side walls, to a point 7 feet 6 inches above the floor, must be hard finished to withstand, at times, daily scrubbing. This leaves available for acoustical treatment the ceiling, with an area of 450 square feet, and the upper 3 feet of wall, or a maximum of 720 square feet. To secure the greatest pos-



Utility room with Nashkote B on ceiling.

multitude of very fine intercommunicating voids in which the sound waves are throttled. The surface is rough. Coloring can be had by the use of pigments mixed in the aggregate. Laboratory tests indicate that the various makes of plasters,  $\frac{1}{2}$  inch thick, have an absorption value varying from 8 per cent to 32 per cent. Two brands of plaster were studied. Akoustolith plaster uses pumice particles graded to approximately uniform size, with a Portland cement binder. Its absorption is 32 per cent and the cost 44 cents a square foot applied. Sabinite plaster (New Brighton) uses pumice grains bound with gypsum. Its absorption is 30 per cent and the cost 30 cents a square foot applied.

These are typical of the available media for

sible quiet, the three treatments having low efficiencies are applied to both upper walls and ceilings, the other two on the ceiling only.

The sixth column of Table I shows the net additional cost for acoustical treatment of the room, allowing for the omission of finished plaster; the seventh column, the net cost per unit of absorption, which is what we buy. All of the materials are applied over a coat of brown mortar. The percentage of absorption is based on C4 pitch, as determined by various authorities. (See Table III, page 85.)

A room acoustically treated by any of these methods will be noticeably less noisy than an adjoining room not so treated, but we must take largely on faith to what extent the quiet con-

tracted for in terms of units of absorption is actually delivered.

The result of acoustical treatment is something intangible, which cannot be convincingly appraised in the room itself, otherwise than by its effect on the human ear. In the reverberation test commonly used a note of known pitch is sounded in a closed room and the length of time taken for the sound to diminish to inaudibility is measured by a listener with a stop watch. An expert familiar with this technique can make the test in any small room and determine the effectiveness of the absorption of acoustical treatment, using as a basis of comparison a similar room untreated. This test cannot well be applied in corridors.

Since the motion picture industry has been brought face to face with the acoustical problem, through the necessity for proper sound control in its studios where "talking movies" are made, experiments furthering those of the acoustical engineers are being carried out, which should soon result in a mechanical device for recording sound conditions in a room without dependence on the human equation.

Noise as it reacts on the human ear is measured by the physicist in sensation units of so fine a gradation that a difference of two units is barely perceptible to normal hearing. The reduction of loudness in a room by acoustical treatment is not directly proportional to the amount of absorption but is proportional to the logarithm of the absorption. To illustrate, if a nursery has 100 units of natural absorption in its bassinets, blankets,

mattresses and other surfaces, the addition of 200 units of absorption will reduce the loudness by 5 sensation units. Reduction of 10 sensation units would require 900 additional absorption units. It has been shown in the cost table that these absorption units cost, applied, about \$1 each.

Scientists have determined the relationship between loudness and absorption, but the question, "When does loudness become annoyance?" is still the subject of research. In a hospital the aim is to bring loudness within the borderline of annoyance, which for a sick and nervous patient is obviously lower than for a well man.

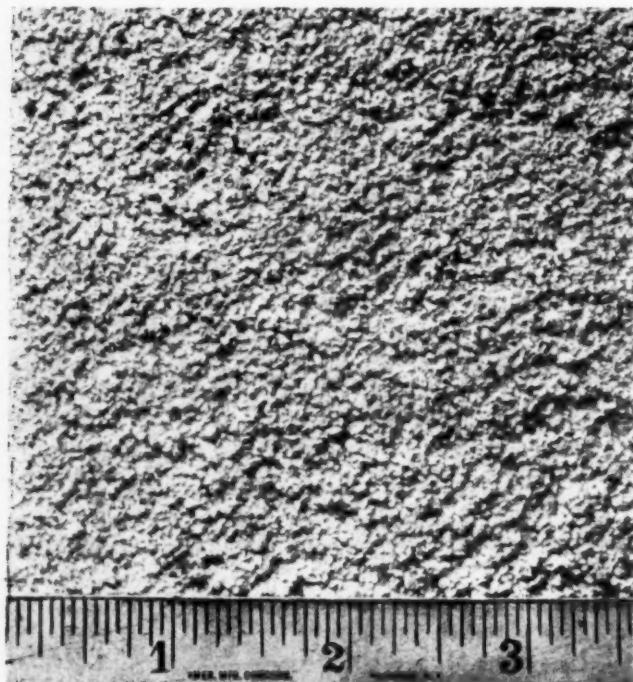
#### *Maintenance of Acoustical Materials in the Hospital*

If we are going to spend \$200 or \$300 extra to make a nursery quiet, we want to know how long the treatment will last, what effect frequent cleaning and repainting will have on its efficiency, how much its maintenance will amount to, how it will be affected by leaks and whether it is sterile to bacteria and vermin.

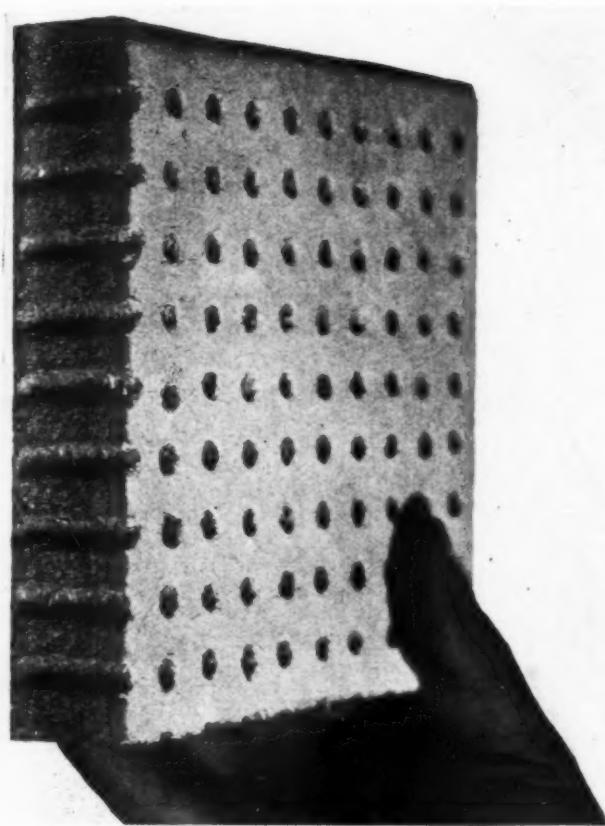
When we appealed to the manufacturers for answers to such practical questions, we could obtain little substantiated data. The admitted lack of definite knowledge is no discredit to them, but rather an indication of the need for more research and experimentation regarding the new factors that exacting hospital technique introduces. Since so many points were unsettled a number of studies were undertaken to see what we could find for ourselves. The results of these are given in the tables that follow.

First an attempt was made to establish maintenance and cleaning standards. How often should hospital walls and ceilings be washed and painted? Local conditions and individual theories and practice necessarily govern these procedures. Eighteen hospital superintendents outlined their routine for cleaning and painting corridors, nurseries and delivery rooms. For the nurseries, three hospitals wash the ceilings every month, nine every three months and two find it necessary to clean them only every other year. Four paint their ceilings annually, thirteen every two years. (Table V). From these widely varying practices we have assumed that quarterly cleanings and biennial painting will represent a reasonable maximum. Several architects and acoustical engineers have criticized such frequent cleanings as extreme. Perhaps they are right, but the hospital will naturally seek products that measure up to its peculiar needs, rather than compromise its standards.

The following comments of Prof. F. R. Watson are significant. It will be noted that the matter of washing is not touched on:



Sample of Sabinite plaster (New Brighton).



Sample of Acousti-Celotex.

"A very important consideration is the painting or decoration of acoustical materials. If such painting closes the pores of the material, or if painting a membrane stiffens it, the absorbing efficiency is reduced. The effect of spraying paint is not as serious as that of applying it with a brush. Acoustical plasters may be sprayed with paints without serious effect. Acousti-Celotex appears unique in this respect, because it may be painted in any way, even with oil paint with a brush, without appreciable effect on the absorption. This is due to the perforations which allow sound to penetrate to the interior, where absorption takes place, even if the surface is painted. Porous membranes over materials do not have a marked effect, because sound passes through the open work in the mesh. Such membranes can be painted only with caution, because closing the open mesh will prevent sound from getting to the material underneath for effective absorption."

Evidently the maintenance of acoustical material will add to the superintendent's work one more problem requiring constant watchfulness. If his painter puts even a single coat of paint or enamel in the wrong way on an acoustical surface its value is largely lost. Whenever a room is acoustically treated a small metal plate giving proper instructions for cleaning and painting should be fastened to the material in a conspicuous place.

To determine the effect of frequent cleanings, a sample of each material was scrubbed with soap and water ten times, sufficient intervals being allowed for drying. The average amount of water absorbed increased the weight of the samples as follows:

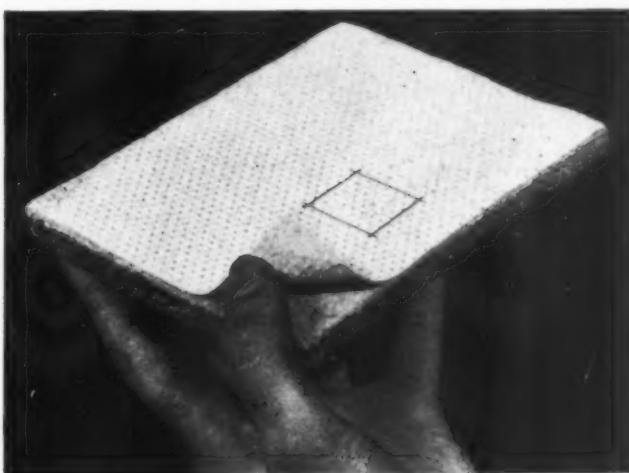
Nashkote A, felt with muslin membrane	30%
Nashkote B, felt with perforated oilcloth membrane	18%
Acousti-Celotex, oil painted	13%
Akoustolith plaster	6%
Sabinite plaster	11%

These tests were not made under actual service conditions. Samples only were available. These were scrubbed on a table, not inverted as they would be on a ceiling, so that the absorption of water was naturally exaggerated.

To determine the effect of leaks, samples were immersed in water for an hour. The gains in weight and thickness and the condition after seventy-two hours were as follows:

	Gain in Weight Gain in Thickness Weight	After 72 Hours' Drying
Nashkote A, felt with muslin membrane	75%	10% Normal
Nashkote B, felt with oilcloth membrane	100%	10% Plus 25%
Acousti-Celotex	60%	7% Plus 20%
Akoustolith plaster	14%	0 Normal
Sabinite plaster	20%	0 Normal

The results of these experiments are admittedly more suggestive than conclusive. The vital question, which is the loss of absorption value after years of frequent washing and painting, can be determined only in an acoustical laboratory, where the progressive changes, resulting from similar tests, can be accurately measured.



Sample of Nashkote B.

To reduce the maintenance factor to definite terms, we shall use the same nursery and consider the cost of cleaning and painting of the various materials, as previously applied to its walls and ceiling (50 square yards of ceiling, or 80 square yards, when the ceiling and upper 3 feet of walls are treated).

The cost of cleaning and repainting naturally varies widely, whether done by contract with union labor or by hospital employees. The unit cost figures here used represent a fair average of a number of estimates from contractors and from hospital and hotel managers. The important deductions to be made from Table II are the relative costs of maintenance for the different materials.

The choice seems to narrow down to Nashkote B, Acousti-Celotex and the plasters. Both of the organic materials, from a sentimental standpoint, are incompatible with hospital standards, the one exposing its felt and the other its many deep holes to the air. Both are to a limited extent combustible.

Theoretically the acoustical plaster should be ideal. It is inorganic and introduces no new trade or unusual material into the building. However, unless it is applied strictly in conformity with the manufacturer's directions, its use is fraught with uncertainty. It is a comparatively simple matter

to make uniform samples in the factory which will test out well in the laboratory, but it is quite another thing to get the average plasterer on the job to put on each square foot perfectly. If too much pressure is applied, and it is instinctive for the mason to use pressure when he smooths off his work with a float or a darby, the moisture is squeezed out to the surface and forms a film over the pores. It is therefore imperative that acoustical plaster be installed under the supervision of the manufacturer, who can then ensure and guarantee results in providing the number of absorbing units in each room that the acoustical engineer determines are necessary.

The cleaning and maintenance of the plaster presents some difficulties. The illustrations show the coarse granular surface which while pleasing in appearance will, from its very texture, collect dust, (as is of course the case with the felt fiber). It can be thoroughly cleaned only by the use of a brush. The nature of the plaster aggregate is such that surface grains to some extent will loosen in cleaning. While this will not affect the absorption, the tendency of the particles to flake off raises a question as to the advisability of its use on the ceilings of nurseries, labor and delivery rooms.

Given proper installation, plaster would seem, in spite of its low percentage of absorption, the



Nursery with Acousti-Celotex on ceiling.

most appropriate material for corridors, utility rooms, diet kitchens, and similar places, where flaking will not be a menace to the patients.

Authorities state that the plaster can be sprayed with a special acoustical paint without materially affecting the absorption value. It seems logical, however, that each successive film of paint, combined with the dust which cannot be reached, must lessen the size and number of the apertures, with the result that the investment would return steadily decreasing dividends in quiet.

Nashkote B, of the type here considered, represents the latest development in a long series. The use of a white surfaced felt and the reduction of the perforations in the oilcloth to pinhole size have overcome the esthetic objections to the older installations. There are no data to indicate how long the oilcloth will last, or what effect exposure to the air will have on the resiliency of the felt over a period of years. The weak link in the chain is the cement, which soon lost its strength in both washing and soaking tests. However this treatment possesses the material advantage over both Celotex and the plaster that the surface can be renewed through replacing of the membrane, at a cost of 4 cents a square foot,<sup>1</sup> with only a slight loss of absorption through the successive applications of cement. When leaks occur a large percentage of water is absorbed but soon dries out, with apparently no ill effect to the felt. Theoretically, Nashkote B should represent a permanent form of treatment and should withstand the severe hospital conditions for many years.

#### *Stained Surfaces Are Not Washable*

Acousti-Celotex in all the buildings visited had either an unfinished or stained surface, neither of which is washable. When stained and stenciled this material presents an attractive appearance but unfortunately stains will not wash. Celotex seemingly offers the easiest and most economical maintenance of any of the materials. Oil paints can be put on with a brush in the ordinary way, without measureable loss of absorption, provided the holes are not filled. While the painted surface can be washed, washing will not reach dust in the deep holes, which can be removed only by a vacuum cleaner. To what extent successive coats of paint entering the holes will close the pores and lessen the effectiveness is undetermined. Celotex tends to warp when damp. Its surface is somewhat rough and the many holes give it the appearance of a huge inverted cribbage board. Experiments with various colored paints are being carried on to determine how the perforations may be

most effectively and permanently camouflaged.

A matter of the most serious import to the hospital has not been touched upon—the possible danger from vermin and bacteria. In many of the hospitals visited where organic acoustical treatment was used, there was expressed a feeling of apprehension as to cleanliness and sterility. Is it safe? Fortunate is the hospital that has escaped a series of infections of unknown origin, although there is no record of such infections being due to acoustical materials. In some instances conditions have become so acute that it has been necessary to evacuate the entire building and scrub and paint the ceilings and walls throughout. Hospital standards of cleanliness may be a bit extreme, but until these precautions can be conclusively proved to be unnecessary, the hospital may well question the use of fibrous felt surfaces in its patients' quarters. The danger from pathogenic organisms may be more theoretical than real, but it should be determined. To this end a series of tests are being made on various acoustical materials in the bacteriological laboratories of the Yale University Medical College to find out whether they will harbor bacteria, if so, how long the bacteria will retain their virulence and how the material can be effectively sterilized. A report of the results of these experiments will be made later.

#### *When Felts Are Used*

Twenty hospitals that had installed felts and Acousti-Celotex were asked if they had been troubled with vermin. All but one reported in the negative. In this instance an obsolete type of treatment had been used—a muslin membrane suspended clear of a layer of felt. This was in a diet kitchen in an old building, which became infested with roaches. While organic materials theoretically offer desirable housing for vermin, when used in a fireproof building and protected by constant watchfulness and frequent cleaning, they should present no problem. Hospital experience apparently confirms this.

Many other factors that have a bearing on acoustical treatment as applied to the hospital have been considered in the course of this investigation, but a discussion of them is omitted in the interest of brevity. Some of these are the light reflection of acoustical materials, their relative efficiencies at various pitches, the relation of loudness to absorption and hard *versus* soft floors.

The purpose of this study is to emphasize the importance of building quiet into the hospital structure. No deductions should be drawn from anything said that acoustical treatment even in its present stage of development is impractical for hospital purposes. On the contrary, the

<sup>1</sup> The manufacturers state that in a room of average height they are prepared to replace the membrane of Nashkote B at 4 cents per square foot at the present cost of labor and maintenance.

achievement of quiet surroundings for patients is so vital that it far outweighs the cost and care involved in the installation and upkeep of sound absorbing material.

While none of the materials and methods now on the market seems to measure up wholly to the hospital's exacting standard of maintenance, the manufacturers recognize that the ideal is yet to be achieved and are spending many thousands of dollars each year in acoustical research. We can but hope that out of their efforts will come an improved specific for sound absorption.

If one might speculate and specify, it should be an inorganic highly porous tile, smooth finished, even glazed perhaps, and tinted, never needing to be painted and everlasting washable. It should have more absorption than the present plasters, at least 50 per cent efficiency. Surely this is an achievement not impossible to our miracle working industrial chemists and resourceful engineers. Such a tile sounds expensive, but, given the formula or process, cost will be based on volume of production. While we are wishing, let us set a price limit of 50 cents per square foot installed.

What is the market? Since the war the volume of hospital construction in the United States has averaged over \$200,000,000 annually. In every city hospital and in most suburban hospitals, corridors, quiet rooms, nurseries, labor rooms, pantries, utility rooms and kitchens would inevitably be given acoustical treatment. The volume of the hospital demand however would be small compared to that in offices and hotels. A solution of the problem would offer great rewards.

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## On the Right of Osteopaths to Treat Their Patients in City Hospitals

Concerning the right of osteopaths to treat their patients in the city hospitals, the Buffalo City Hospital, Buffalo, N. Y., has released a letter from a doctor of osteopathy in that city in which he propounds three questions as follows:

1. Is there any rule or regulation of the Buffalo City Hospital that justifies the authorities of that institution in refusing to receive patients referred by licensed osteopathic physicians in Buffalo? If so, what does the regulation read? Who instituted it?

2. If the board of managers has made a rule or regulation that specifically states that patients shall not be

admitted when referred by osteopathic physicians, will you, at the next meeting of the board, recommend that such rule or regulation be changed so that this discrimination against osteopathic physicians shall cease?

3. If the board of managers has made no rule that specifically discriminates against osteopaths will you give an order to the various department heads of the Buffalo City Hospital to the effect that patients be admitted for hospitalization when referred by osteopathic physicians who are licensed to practice the healing art in New York State under the same conditions that control the admission of patients by other physicians?

In reply to the letter, the Buffalo City Hospital explained that only those physicians who are eligible for membership in the American Medical Association may treat patients in the hospital or be appointed to the staff. Otherwise the hospital would lose its standing with the association and with the American College of Surgeons. The reply further stated that any citizen or resident of the community could refer patients to the hospital and that sick persons could apply direct without having been referred by some individual.

## Occupational Therapy at One Scottish Mental Hospital

Patients at Hartwood Mental Hospital, Lanarkshire, Scotland, may choose the sphere of their occupational labors, always subject of course to the approval of the medical officers. An article in *Hospital Social Service* for January describes the many phases of occupational therapy that are helping to restore the mental patients at Hartwood to normality.

Community activities play an important part in the restoration of many patients. Patients work on their own acre of allotted land, tend dairy, run the light and heating plant and, in fact, do all such work about the institution. Music and remedial calisthenics are given a prominent place in the yearly routine for their therapeutic values.

But these activities do not touch all patients. For the patients who are passive, deteriorated, disoriented, the occupational therapy department was organized and the results have been satisfying. Thirty-four crafts are in process, with new ideas and occupations being introduced as required. With patients who are beyond the "gift and kindergarten stage" of occupation, the following crafts are popular: china painting; enameled and mottled pottery; sealing wax craft; decorative craft work; brass work; pewter and bronze work; scissor painting; barbola work; batik work; tie dyeing; potato craft, on fabric; Italian film painting, on glass; leather work; stenciling; oil and water color painting and sketching, from still life and out of doors; block printing; toy making and plaster casting and modeling.

Appeal is made with color, materials, variety, environment, music and originality to all instincts, senses and emotions. Often it is the unexpected that attracts.

Hartwood has definitely organized occupational therapy craft classes for its staff. The present student-in-training is sent from another Scottish mental hospital—to be taught Hartwood crafts and methods—and is resident.

The article further urges nurses of every denomination to take advantage of any chance to gather craft knowledge. Craft knowledge may prevent the nurse's medical or surgical patient from becoming a mental case.

## *When You Build, Consider—* Detroit's New Tuberculosis Unit

By GEORGE E. PHILLIPS

General Superintendent, Herman Kiefer Hospital, Detroit

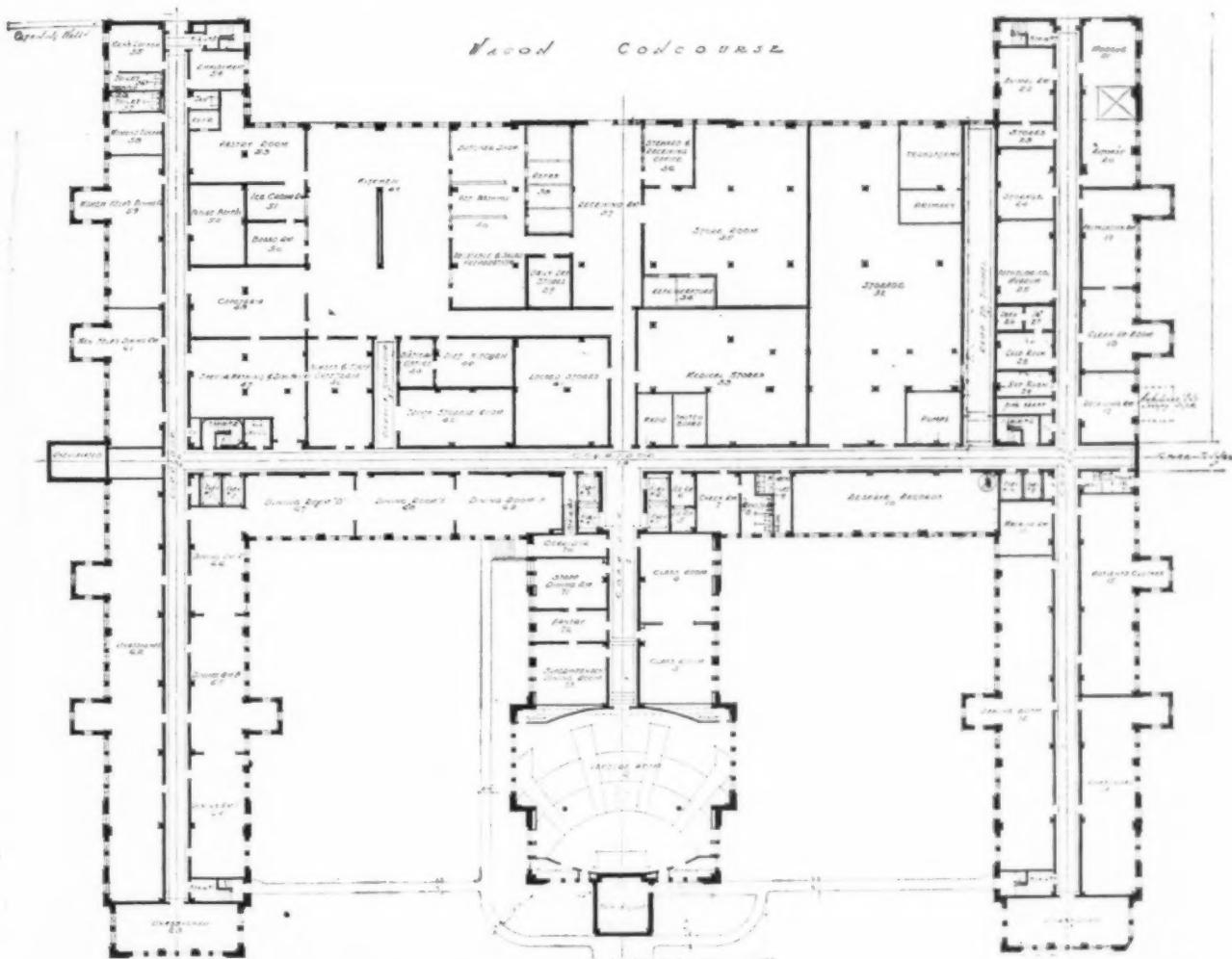
CONSTRUCTION of the new medical unit of the Detroit Department of Health, operated in conjunction with the Herman Kiefer Hospital, Detroit, was begun in September, 1927, and the building was opened for the reception of patients in December, 1928.

The new unit has a capacity of 500 beds, which will be devoted largely to the care and treatment of tuberculous patients, who will be admitted through the tuberculosis clinic of the Detroit Department of Health, housed in this building.

The structure is seven stories in height and full basement, of steel skeleton, reinforced concrete and brick construction and it is fireproof. The main doorway, facing on Taylor Avenue, leads

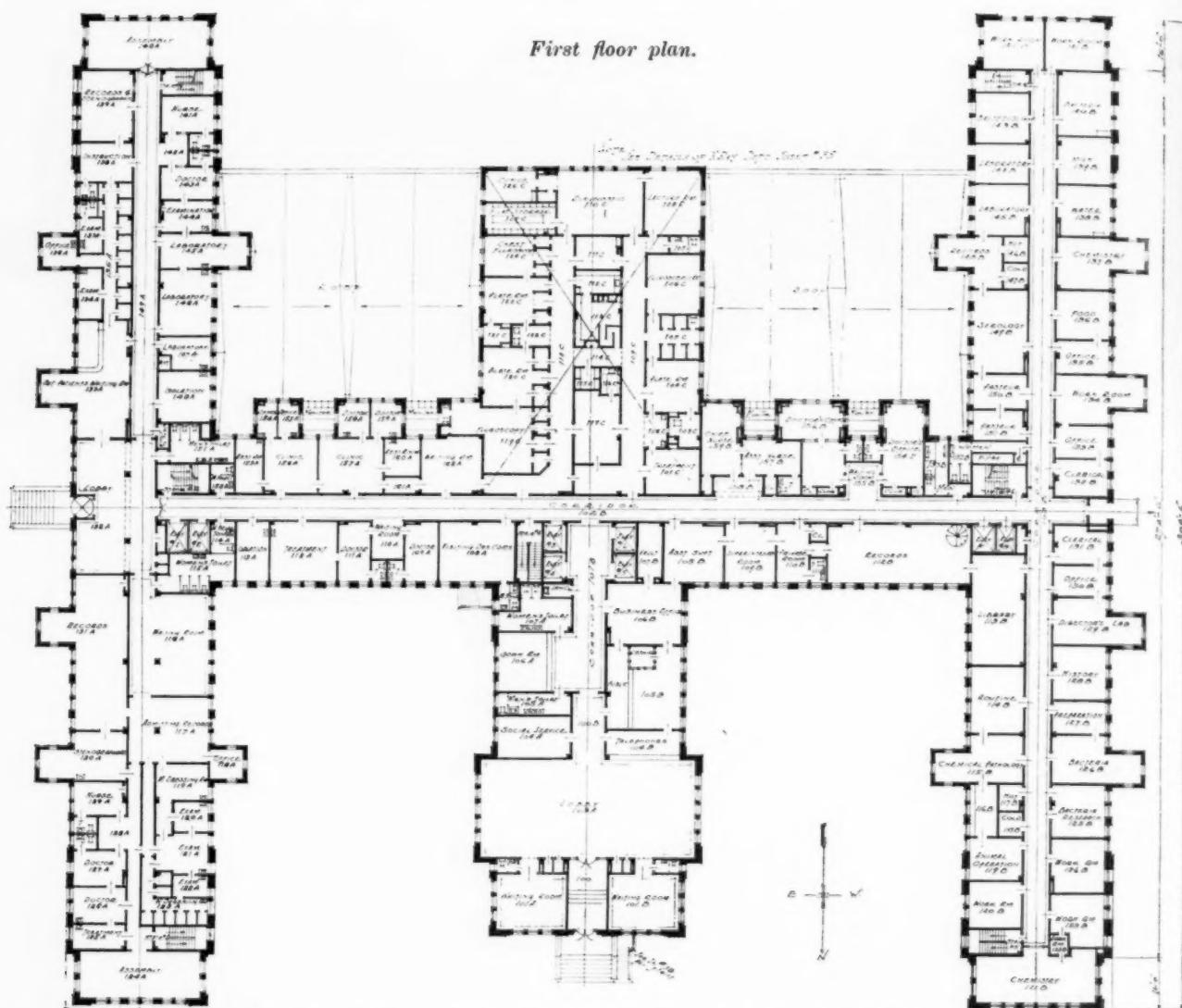
into a square vestibule and thence into a large lobby, on the right of which is the information desk. The walls are of marble and the room is attractively furnished, with red leather and tapestry chairs and settees. Two parlors off the lobby are similarly furnished. On the first floor are the administrative offices, the social service department, library, record room, physicians' offices, offices of the nursing executives, tuberculosis clinic and health department laboratories, as well as a modern and well equipped x-ray department.

In the basement are the main kitchen, special diet kitchen, vegetable preparation room, pastry and ice cream rooms, personnel dining rooms, commissary stores, miscellaneous stores, linen



### *Basement floor plan.*

Floor plans by courtesy of  
Albert Kahn, architect, Detroit.



rooms, pharmacy, radio receiving room, class-rooms and a large amphitheater. The heating plant and laundry are in a separate building.

The second, third, fourth, fifth and sixth floors are devoted to the housing of patients and are similar, except the second floor which contains a metabolic kitchen and dining room. All food is sent from the main kitchen in electrically heated carts and distributed directly to the patients. These patients' floors also contain two supervisors' offices, two physicians' offices and two treatment rooms, in addition to an adequate number of utility rooms, linen rooms, toilets and bathrooms, orderlies' stations and janitors' closets.

The rooms are either single rooms or for two patients, there being no wards, and most of them have porches. In fact, about 80 per cent of the patients can be placed on porches at one time. Each room, in addition to having prettily decorated furniture, is equipped with a washstand, clothes closet and radio head set. A number of the rooms have toilet rooms in connection. The walls are decorated in a warm buff and in addition

to the central chandelier and bedside reading lamp, the rooms and also the corridors have a night light about two feet above the floor, so that the nurses may observe patients without throwing a glare of light in their eyes.

A microphone placed in the auditorium will enable speakers to give health talks to the whole patient population.

### *Entire Floor Devoted to Operating Suite*

The surgical service occupies the entire seventh floor, excepting the wings, which are devoted to heliotherapy. There are five operating rooms, one of which has an amphitheater which seats fifty persons. Each operating room has its individual sterilizing plant, anesthetizing and preparation rooms. Gas is conveyed to operating rooms from a centrally located room by means of piping.

Advances in the study and treatment of tuberculosis have brought forth corresponding advances in tuberculosis surgery, and the instrument, dressing and sterilizing rooms on this floor



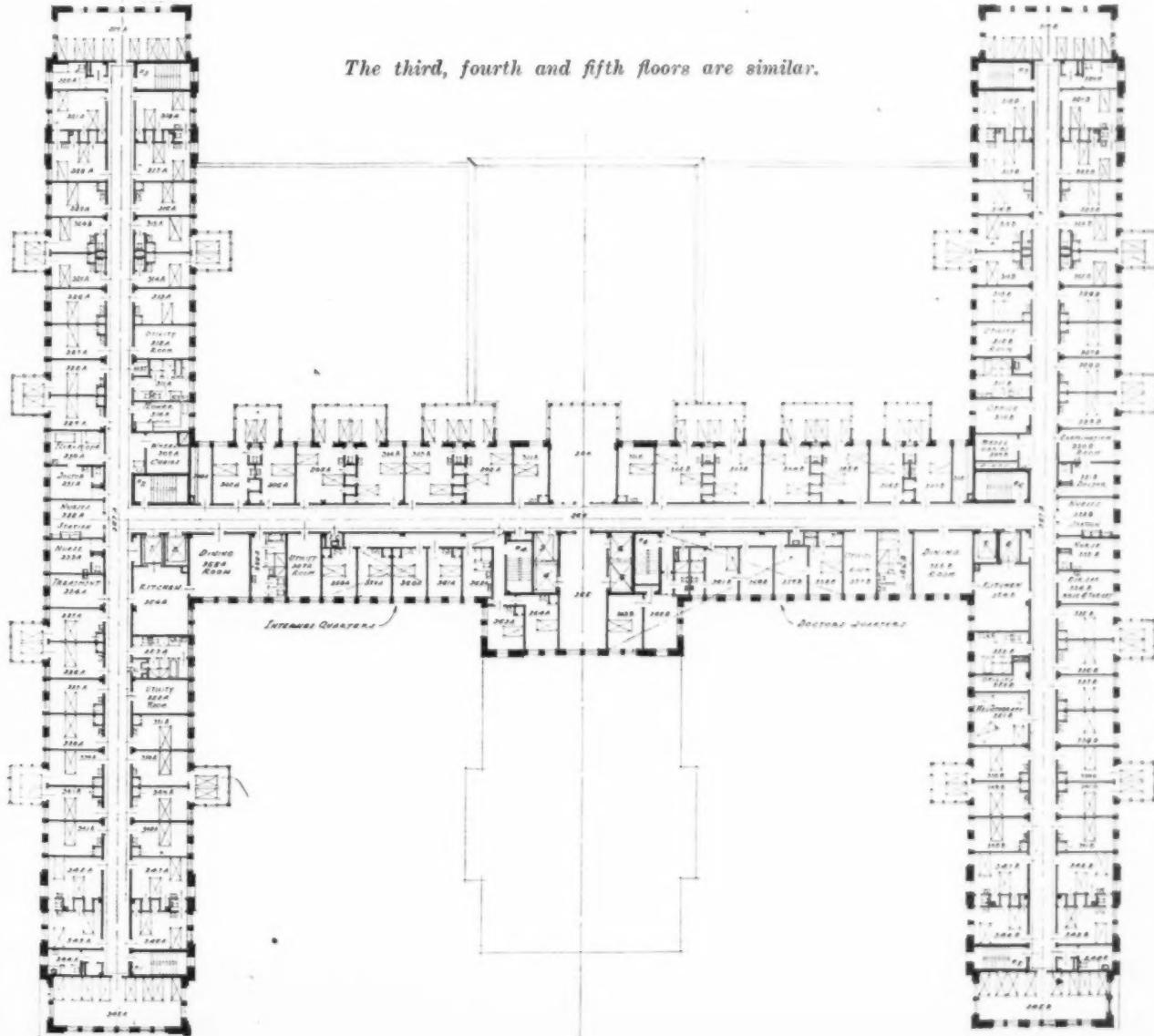
*Herman Kiefer Hospital, Detroit.*

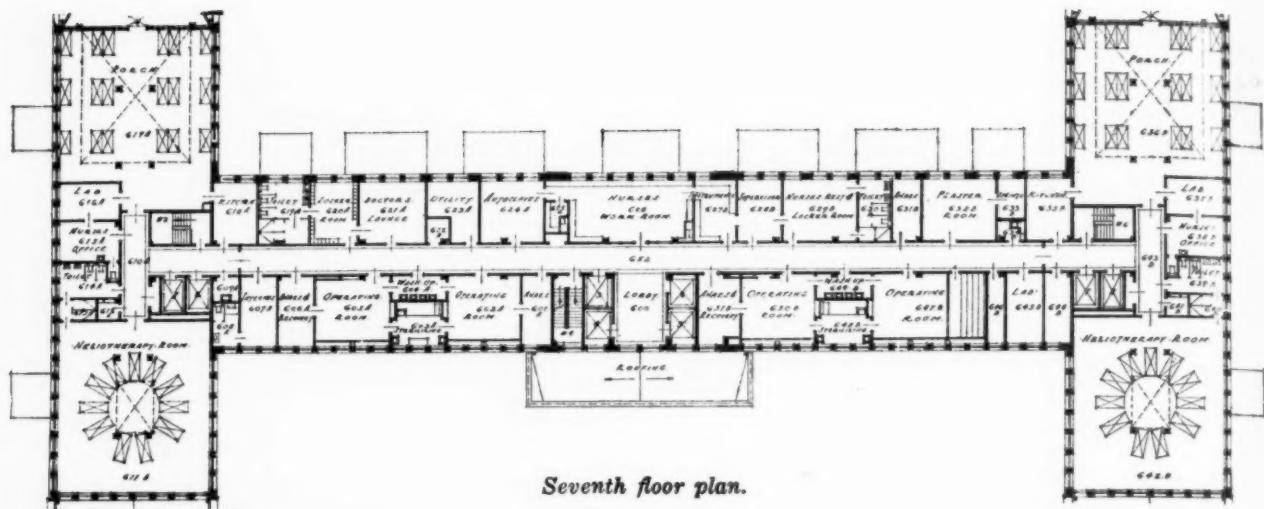
are equipped in the most up-to-date manner.

The space devoted to heliotherapy is divided into two sections, one side for women and the other for men. Each section is divided into compartments, one to be used for artificial sunlight and equipped with carbon arc lamps, a

compartment with ultraviolet ray transmitting glass on the roof and sides, and the other with an open roof for treatment by direct sunlight. Ultraviolet ray transmitting glass is also used in all of the patients' bedrooms.

There are eight elevators, six for passengers





### Seventh floor plan.

and two for service. Passenger elevators land at each floor in a separate elevator corridor, and attractive day rooms are opposite these elevators.

Window sills are 3 feet 6 inches above the floor and are of rounded plaster. The porch windows are in three sections and operate by a crank. Floors are of terrazzo and rubber tiling. Radiators are hung on walls.

There is a physicians' electrical numeral silent paging system for all floors and for the auditorium, and nurses' silent call stations are provided for every patient.

Forced ventilation is provided for the kitchens, auditorium, operating rooms, patients' clothes closets, utility rooms and bathrooms.

ball play, tennis, quoitennis, ground bowls, croquet, hockey, the weights, ringtoss, indoor quoits, water sports, in the winter such sports as coasting and skiing and indoor recreations such as pool and billiards, music, dancing, table games, reading and gymnasium activities. Games are made most effective by frequent tournaments. Honor in scoring and technique of games are taught and absorbed.

In summarizing, Doctor Brush emphasizes the following points:

Recreation, broadly considered as extending from reading, listening and talk through the various intermediate phases to the inclusion of active physical competitive sports, is coming to occupy increasing and major portions of modern cultural life.

It should be utilized by the therapist through skilled adaptations to prevention, convalescence, physical and neuro-mental reconstruction and in personality testing for better adjustment to social industrial living. The element of attaining reasonable success is important in practice, and the methods should be modified to this end.

Recreational therapy, while coordinating the occupational, is not the same, and gets best results through a degree of separation in theory and practice.

## Utilizing the Therapeutic Values of Wholesome Recreation

For fourteen years the play cure has been predominant at the Burke Foundation's country recuperative institution.

Dr. Frederic Brush, medical director, Burke Foundation, White Plains, N. Y., has described the effects of recreational therapy in a booklet, "Recreational Therapy in Convalescence and Allied Subnormal Health Conditions," in which he points out that the play spirit and practice so permeate modern civilization, it behooves the therapist, as well as the statesman, to apprehend and utilize this reparative and harmonizing basic element. Recreation as defined by Doctor Brush gives much of the re-creation of body and personality so greatly desired.

The institution uses sixty acres of land for its various restorative procedures, with one to two hours daily given to prescribed therapeutic occupation, while the play cure in its many forms acts intermittently and with suitable gradations throughout the waking hours. A supervisor of recreation and occupation—with aids and patient leaders—directs these formative activities.

Among the recreational activities that are benefiting the patients at the convalescent home are golf, walking, dancing, horseshoe and quoit pitching, football, baseball, playground ball, handball, basket ball, tether ball, casual

## Hold Property of "Benevolent" Hospital Taxable

Taxpayers of Pocatello, Idaho, who in 1925 petitioned to have the property of the Lynn Brothers Benevolent Hospital placed on the tax roll won their case last December despite the fact that the hospital nets no income of itself and is listed as a charitable institution. The supreme court decision reverses the decision of the district court, according to the *Journal of the American Medical Association*.

Although evidence showed that the hospital had a deficit in 1924 and 1925, it was pointed out that the total income included items not chargeable to the income of the hospital because they were income from the Lynn brothers' professional services. The apparent deficit was paid from a bank account common to the brothers and to the hospital.

"Where a dominant and substantial use (of the hospital) is of pecuniary advantage to individuals who have the hospital under their management and control, it is not a use for benevolent purposes, or without profit, within the meaning of the statute," the court held.

# When You Build, Consider— The Hospital Heating System

By JOSEPH C. FISCHER

Chief Supervising Engineer, Milwaukee County Institutions, Milwaukee.

A SATISFACTORY hospital heating system must quickly and noiselessly warm the building and maintain the desired room temperatures, regardless of the rapid changes and wide variations of the weather conditions. An extremely flexible system is required to eliminate stuffy overheated rooms and to make unnecessary the excessive opening of windows with resultant drafts and cold floors.

After an extensive survey and careful consideration of possible systems, the differential vacuum system of heating was selected as the one meeting these ideal conditions and requirements for the Milwaukee County General Hospital, Wauwatosa, Wis., the latest building of the group for the Milwaukee County Institutions.

The differential system uses steam as the heating medium. By controlling the pressure at which steam is supplied to the heating system the temperature of the radiators is varied to suit the weather condition. This system will be supplied with steam at 25 inch vacuum or at pressures above atmosphere as required. This gives extreme flexibility, as the steam temperature can be varied from 133° F., to 212° F., or higher.

#### Packless Radiator Valves Used

Steam is supplied to each radiator through a packless radiator valve. It is made packless by means of a bellows construction, which permits the free up and down movement of the valve and prevents leakage of air into the radiators. Each valve is furnished with a regulating plate whose orifice is calibrated to the surface of the radiator. This plate proportions the steam equally to all radiators under all pressures and regardless of the radiators' relative location to the source of steam supply.

The plate places a slight resistance to the flow of steam to each radiator, creating a reservoir condition in the supply system. Thus the pressure at the valve of each radiator is substantially equal. During the "heating-up" period each radiator will receive its portion of steam and no more; that is, a 25-square-foot radiator will be heated up at about the same rate as a 100-square-foot radiator. During this "heating-up" period

the radiator traps will be open and the air and condensate will quickly leave the radiator, draining into the return mains. As soon as the radiator is full, steam will surround the thermostatic disc of the trap, which is constructed to operate over this wide range of pressures and vacuums and expands, taking the proper setting to release air and condensate continually but retaining the steam in the radiator.

#### Steam Proportioned Equally

When the radiators are filled with steam and under normal operation, the regulating plates produce a semi-reservoir condition in the steam mains, as compared to the condition when filling, by supplying an opening for the flow of steam in proportion to the size of the radiator being supplied. If for any reason the condensing rate of a radiator is greatly increased the regulating plate will tend to prevent it from condensing an excessive amount of steam in spite of the demand for it. This reduces the heat waste caused by excessive window opening. This plate also proportions the steam equally to all radiators under a declining or banked fire or in extremely mild weather, as in early Spring or late Fall. At these times the heat required is so little that, even with the high vacuum operation, radiators filled with steam might overheat the building if it were not possible to reduce further the heat given off.

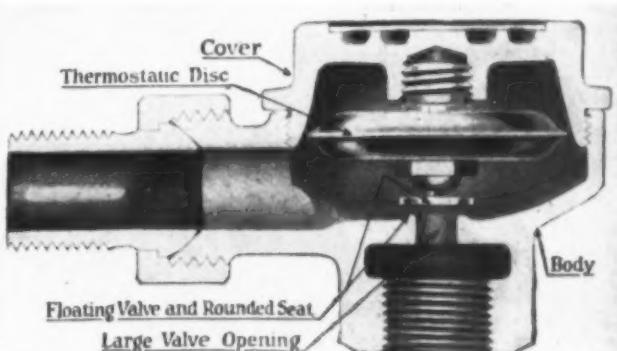


Fig. A.

This further reduction of the steam supplied to the radiator under high vacuum is accomplished by the regulating plate, which controls the

amount of steam admitted to the radiators, so that they are only partly filled.

The thermostatic trap, shown in Fig. A, is capable of operating uniformly over this wide range of pressures from 25 inch vacuum to 25 pounds of pressure. It allows a free passage of air and condensate but closes against steam, retaining it in the radiator until it has given up its heat. The operation of the trap is shown in Fig. B. This trap makes possible the maintenance of positive differential between the radiators and return mains under all these operating conditions.

The differential vacuum pump is a centrifugal pump of simple but rugged construction for producing these high vacuums. Its functions are to exhaust the air from the heating system, venting this air to the atmosphere and returning the water to the source of steam supply. This pump operates on the jet exhauster principle which is especially adaptable for the service. Water is supplied from the receiver tank of the pump to the exhauster under high pressures, by a motor driven enclosed impeller type centrifugal pump. By passage of the water through the jets of the exhauster its pressure is converted into kinetic energy which is utilized in removing air and water from the space surrounding the jets, cre-

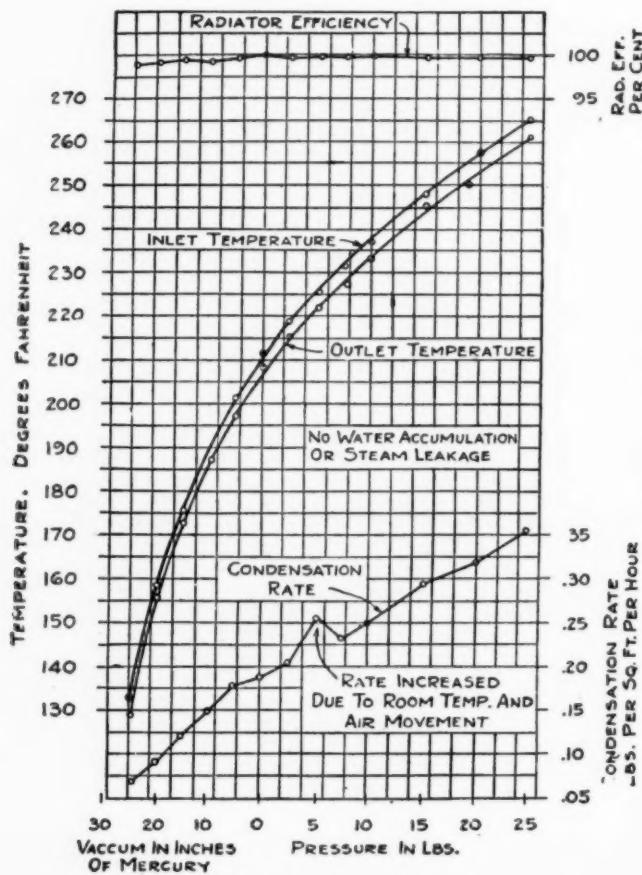


Fig. B.

ating a vacuum in the exhauster and the heating system.

The differential controller keeps the vacuum in the return higher than that in the radiation, thus assuring complete circulation to all radiators.

The new building will be nine stories high with

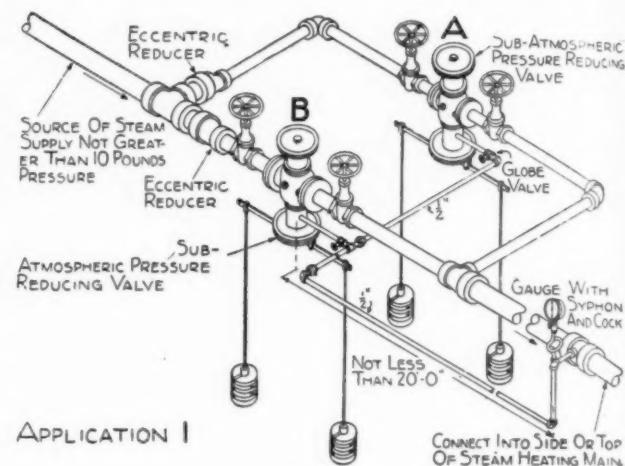


Fig. C.

three basements. It is 470 feet long and 194 feet wide over the wings and will cover a ground area of 33,300 square feet. It will have beds and complete equipment for 500 patients.

All steam will be supplied to this building from mains in a pipe tunnel from the central power plant in the infirmary building. The tunnel enters the hospital building at the third basement. Both a low pressure exhaust and high pressure steam supply enter the building at this point.

In the third basement are also placed the hot water tanks, house pumps, differential vacuum pumps and pressure reducing valves.

Exhaust steam will be used as the primary heat supply to the differential system. During the heating season a 1,000-kilowatt turbine will be operated continuously, power being furnished for all the different institutions. During the night when the lighting and principal power loads are off, baking will be done in a central bakeshop equipped with electric ovens. This keeps up a straight power curve throughout the twenty-four hours of the day.

Steam in the high pressure line will be reduced to medium pressure for all hospital, kitchen and laundry equipment and provision made so that if at any time enough exhaust steam is not available for the heating system it will automatically be supplied to the low pressure main. Steam supply to the heating system will be controlled by the subatmospheric pressure reducing valves, which are near the entrance of the pipe tunnel and are installed as shown in Fig. C. The supply main then divides, rising to the ceiling of the

second basement where the distributing mains are located. The system of up-feed risers from these mains supplies 1,274 direct radiators, having a total surface of 40,414 square feet.

The vacuum producing unit for the heating system is a duplex differential vacuum pump. It will be installed, together with its control equipment, in the third basement, and returns the water to a receiver at the power plant.

Medium pressure steam is supplied to the large hot water heaters in the third basement. All kitchen equipment, such as coffee urns, stock or soup kettles, steamers and steam tables, as well as instrument sterilizers, dressing and water sterilizers and blanket warmers, are all supplied with medium pressure steam. Each fixture is dripped through a medium pressure trap into a separate system of return piping, which is connected to a battery of automatic steam traps for returning this condensation to the boiler plant.

The steam supply to the differential system will be controlled by means of the two subatmospheric pressure reducing valves, adjusting these valves to supply sufficient steam in proportion to the heat losses for the prevailing weather. In mild weather Valve A (Fig. C) will supply steam at

high vacuums to the radiation. As the weather becomes colder more steam will be supplied, decreasing the amount of vacuum at which steam is supplied. In cold weather Valve B will be used, while in extremely cold weather both valves may be used if necessary.

The flexibility obtained by thus controlling the heat output is shown by Fig. D. These data were obtained from a number of tests made on a 3-column 38-inch 100-square-foot radiator, standing in air at 70 degrees. The heat emission varied from 64 B.t.u. per square foot per hour at 25 inches of vacuum, to 212 B.t.u. per hour at zero gauge pressure. The heat output varied 148 B.t.u. per square foot per hour, because the temperature was varied about 80° F.

By thus varying the heat output from the system, economy of operation will be achieved because the room temperatures will be uniform, there will be no overheating and heat will not be lost through unnecessary and excessive opening of windows.

## The Value of Coordinating Nursing and Education

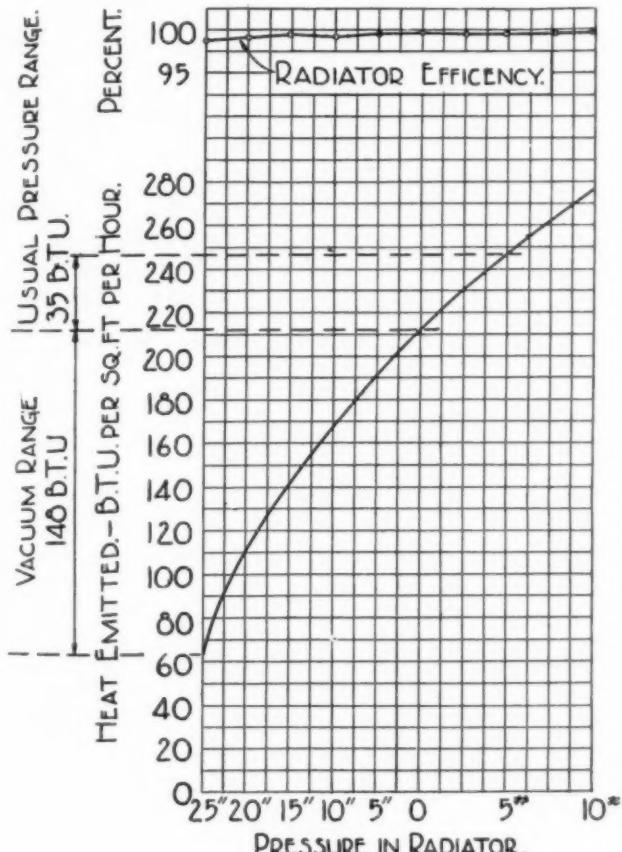
Coordination of nursing and education depends largely upon its foundation, according to Mary E. Yager, director, Woman's and Children's Hospital, Toledo Ohio.

Uniform educational standards will eliminate much repetition in the classroom, Miss Yager believes. It is also desirable to correlate the theory with the practical work on the wards even if the budget must be increased to provide graduate nurses for general duty. Improving the supervision of the various nursing units and arranging to teach young women with promising qualifications how to supervise efficiently must also be considered. In this way the student nurse becomes better informed of the relation of various divisions to the administration.

## How One Hospital Maintains Its University Affiliation

Firland Sanatorium, Richmond Highlands, Wash., employs a staff of fifty graduate nurses and maintains an affiliation with the department of public health nursing, University of Washington, through its extension division. In order to maintain this affiliation, the nurses must take for two years a course that leads to a certificate in public health nursing from the university.

The arrangement of the nurses' day, with reference to work, study and play is interesting. They must attend lecture two nights a week. The examinations are given in the afternoon on the nurses' time. They are paid \$95 a month and in addition are provided board, room and laundry. The working day is eight hours. The day nurses go on duty at 7:30 a.m. and have two hours off in the afternoon. They are also given one full day off each week. Occasionally each nurse has from 4:30 p.m. on Friday to 3:30 p.m. on Sunday. Relief nurses are on duty from 1 p.m. to 10:30 p.m.



HEAT EMISSION FROM 3C.38" 100SQ.FT. RADIATOR.  
COMPUTED FROM TEST DATA FOR A ROOM 70°

Fig. D.

## STUDIES ON HOSPITAL PROCEDURES

### Hospital and School of Nursing Relationships

RECENTLY there has been not a little discussion concerning the relationships of the school of nursing and the hospital.<sup>1</sup> This discussion has dealt with the desirability of administratively recognizing the training school as a more definite autonomous hospital division than is now usually the case. The devising of a separate budget to conduct the work of educating the nurse constitutes but one of the problems, the solution of which is essential to a full understanding of this plan.

The purpose of this article is to set forth some of the relationships—interdependencies—that exist between the hospital and, what must be recognized as one of its very important divisions, the school for nurses.

#### *Functions of the Hospital*

The hospital is responsible for the care of the sick, the prevention of disease, the education of the nurse and the intern and for adding to the sum total of human understanding concerning disease and its causes. The educational aspect of hospital work is of the greatest importance. The school for nurses, however, is more than an educational venture, because of the distinct preventive and curative medical phase that is intermingled with the work of its representatives. The nurse cannot help but learn by doing, any more than she can avoid the performance of medical work while she is learning. It is, hence, impossible in the study of the relationships existing between these two types of endeavor, both of which are of prime importance, to discern where one begins and the other ends. This discussion must necessarily divide itself into two parts—a description of the relation of the school for nurses as a whole to the hospital and a discussion of intra-school functions and relationships.

Since the directress of nurses may be said to represent the school for nurses, and the superintendent of the hospital, the institution, in all its activities over which he presides, the titles as-

signed to these positions will be used to describe the departments they represent.

The hospital may be defined as a community in which a medical need has arisen, and where are to be found ethical, skilled doctors and nurses, a trained administrator to coordinate the efforts of all those concerned and last, and perhaps relatively of the least importance, a suitable and modern building to house those of the community requiring the aid of the persons mentioned. The physical building, therefore, which is called "hospital," is in reality an important requisite only as a means of making possible the application of the principles of scientific medicine in the solution of a community's health problem. The most difficult structure to erect is the spiritual edifice which represents a willingness to meet this need.

#### *Interrelating the Hospital Departments*

Several groups comprise the institution's personnel. There are those who are particularly trained in the diagnosis and treatment of disease. There are others whose capabilities lie along the lines of nursing. There are those who study disease by the aid of the microscope and the test tube. There are those who learn much about disease from the use of the x-ray and other physical apparatus. Who shall say which is the greatest among them? The fairest minded person who attempts to place one of these activities on a higher plane of usefulness than any other at once encounters difficulties.

The importance of any hospital department to the patient, to the community, to science depends not only upon the skill and the efficient organization of its personnel but also upon the relative usefulness of other departments, as interpreted by the one appraising the value of these activities, to the work of the hospital as a whole.

The school for nurses is of the greatest importance to the sick man or woman. It is not the intention here to detract one iota from the contribution to medicine and the humanities that is being made in more than two thousand communities by the thousands of undergraduate and graduate nurses who are working in our country's hospitals. Yet it must be recognized by the most biased that there is a certain attractiveness—romance, if you please—connected with the organization and work of the school for nurses. The interest and self-effacing effort that these young women manifest in their daily work, the stimulus that the prosecution of any educational endeavor gives and the picturesqueness of cap and gown all help to elevate the importance of the work of the school for nurses in the minds of the public. The part, however, cannot assume a more impor-

<sup>1</sup>Transactions, American Hospital Association, Thirtieth Annual Convention, pp. 268-297.

tant place than the whole, and the educational and nursing work of the hospital is only one of several contributions the institution is making to the care of the community's sick.

The school for nurses, therefore, may be discussed in (a) its relations to the hospital proper, (b) to the superintendent of the hospital, (c) to the visiting staff, (d) to patients generally and (e) to special boards or to visiting women's committees.

It is a trite but true statement that the board of trustees is responsible, in the last analysis, for all that goes on within its institution. Whether the hospital conducts its own school for nurses or whether it pays for nursing furnished by an outside agency, the board is still responsible for the excellence, or the lack of excellence of the care the patients receive. The method of financing the school for nurses, however, may influence in a measure its relationship to the hospital administration.

#### *No Parallel Lines of Authority*

There should be no parallel lines of authority in an organization, whether it be philanthropic or industrial in its aims. All lines of authority and lines of communication must converge at the superintendent's desk. It is a fatal mistake for the directress of nurses of the training school to have open to her any avenue that will prevent official communications, whether verbal or written, from passing over the executive's desk.

In some institutions, the administrative and financial control of the school for nurses is vested in a committee, self-organized and self-constituted, over which the superintendent of the hospital and even the board of trustees have but partial control. Such an arrangement permits the administrative officers of the hospital to request adequate nursing service but never to order it. While in some places this arrangement seems to function smoothly, yet it does so only because of the peculiar capabilities of the directing officers insofar as tact and flexibility are concerned.

A committee on the training school is commonly seen in most hospital board organizations. To this committee is assigned the general supervision of training school matters. The president of the board of trustees annually appoints its members including the designation of a chairman. This committee usually meets monthly.

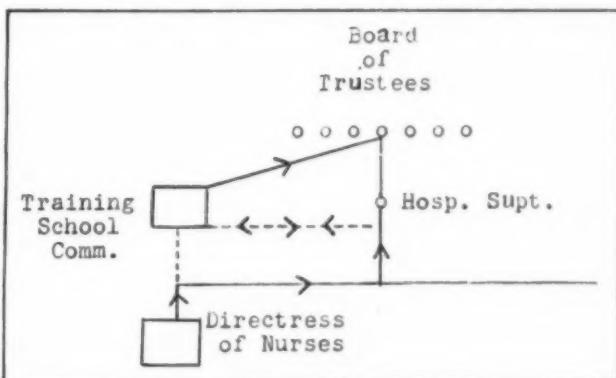
The difficulty that arises from this type of organization generally lies in the fact that the directress of the school for nurses is sometimes inclined to consult this committee directly on matters of policy and discipline and thus fails to refer such matters to the superintendent of the hospital.

This committee, unless its chairman be administratively minded, is often tempted to forward directly to the board of trustees the recommendations of the directress of nurses with its approval or disapproval.

In a recent study by the Committee on the Grading of Nursing Schools it was found that 18 per cent of the heads of hospital schools for nurses reported directly to a committee, which represented the hospital board of trustees, or some other interested group. The dangers of this type of organization are depicted in Graph 1. The solid lines denote direct authority and the dotted lines, consultation relationships or indirect authority.

The function of the staff committee on training schools consists in rendering to the directress of nurses advice and consultation as to the proper discipline for erring pupils, the approval of the curriculum and its lecturers and the supervision and responsibility for the public relationships of the school.

It is a wise directress who never presents to her training-school committee any disciplinary matter without discussing it first with the superintendent of the hospital and reaching an agreement with him. The arrangement and scope of the subject matter of the curriculum should always be fully discussed with the superintendent. Moreover, any question concerning the relationships



*Graph 1.*

of the school with the public, such as arranging for and selecting speakers for commencement exercises, public meetings or demonstrations, should be fully presented in private consultation to the superintendent of the hospital before any recommendations proceed to the committee.

Many practical problems present themselves along this line. What should be done, for example, when a nurse, who has received a merited punishment for the infraction of an institutional rule appeals directly to the chairman of the training school committee? Should this communication pass through the hands of the directress of

nurses or should it be addressed to the hospital executive?

The superintendent of the hospital should be an ex officio member of the training-school committee and he should attend all of its meetings. It is to be questioned whether the directress of nurses should as a matter of routine attend meetings of the board of trustees. She certainly should, however, be requested to do so when important matters relative to her department are to be discussed. Perhaps if she were more frequently taken into the confidence of the board of trustees, the fact that more than half of all directresses of nurses remain in one position less than two years would be altered.

In answer to the foregoing query, it may be stated that THE MODERN HOSPITAL is firmly of the opinion that an efficient training-school committee chairman would not countenance a private communication of the type described to be addressed to his committee without its first having received the visé and the resulting approval or disapproval, of both the directress of nurses and the superintendent of the hospital.

It is irregular for a nonofficial contact to take place between the members of the board of trustees and a supervisory or head nurse in a training school without, at least, the directress of nurses' knowing about it. This is an administrative crime of commission, is disastrous to morale and no more to be condoned than the circumvention of executive authority that takes place when the directress of nurses personally approaches the board to secure a concession for her school.

#### *The School and the Hospital Director*

The relation of the training school to the superintendent of the hospital, personally and officially, is set forth in Graph 1. This can and should be no other than that existing between this official and the various other hospital departments. Some directresses of nurses appear invariably to object to answering to the hospital executive, particularly if he is a layman. They complain that such administrators do not understand the medical aspect of training-school matters, that the educational vision of such executives is apt to be low and that, failing to realize the educational problems of the nurse, they are likely to scrimp the finances of the school. It is held that no progressive directress of nurses can or will be blocked by a superintendent who fails to provide funds for needed training-school improvements. These are the reasons given for the justification of directresses of nurses who at times fail to observe strictly the lines of authority set forth in hospital organization plans.

The remedy for these complaints, which are not general but too common to be overlooked, lies largely in the administrative and professional training of both the directress of nurses and the superintendent of the hospital. Because some superintendents are ill trained and reactionary in their methods, does not excuse such sins of omission and commission of an administrative or executive nature. When the positions of superintendent of the hospital and directress of nurses, are held by one person, of course these difficulties will not exist. But it must be recognized without any qualification that the directress of nurses is administratively responsible through the superintendent of the hospital, to the board of trustees. This fact, existing as it does as a basic necessity for conducting the hospital efficiently, should in no way generate autocracy on the part of either of these persons but should rather favor an understanding cooperation between them.

#### *Physician Should Be Tactful*

The school for nurses is, of course, responsible to the staff for the proper nursing of the patients under the care of its members. If poor nursing is experienced, often a tactful effort on the part of the physician to correct this defect will bring results. On the other hand, if this type of remedy fails to correct the fault, a formal report should be made to the superintendent of the hospital who in turn consults with the directress of nurses. In many instances strict conformity with organization principles, as set forth in the institutional graph, need not be required and the physician may ethically consult with the directress of nurses if a discussion of his difficulties with the supervisory or head nurse of the department has not brought results. A problem that might arise in this respect is represented by the situation in which an irate physician has been prompted to order off duty a pupil nurse who has failed in his judgment to care properly for one of his patients. The correct method of handling this situation would be for the physician to avoid such an error. A request to the supervisor of nurses that she correct the difficulty should be sufficient. If it is necessary to remove the nurse from duty, this should be done only on the order and by the authority of the directress of nurses.

The physician frequently assists in carrying out the curriculum of the school by delivering lectures to student nurses on subjects in which he is especially trained or interested. Indeed, it may be stated that to assist in this way is as much his duty as perhaps even the care of the sick.

The relationship of the school for nurses to the composite patient is most intimate and is of great

importance to both. Herein lies the success or failure of both the educational and the curative activities of the hospital.

The nurse, first of all, must make her proper contribution to the care of the sick. To do so, she learns how to minister correctly to other patients of the same or similar type. Here lies the possibility for the formation of a vicious circle. To nurse inadequately those who are ill is to learn improperly how to nurse. The duty of the educational staff, as well as of the visiting physician, lies in furnishing every educational advantage to the pupil nurse. To require too long a period of service to any given type of patient is unfair to the nurse, because the hospital is in duty bound to give her a well rounded experience. Any commercial exploitation of the nurse's efforts is to be discouraged, and the twofold aspect of the problem must be borne in mind.

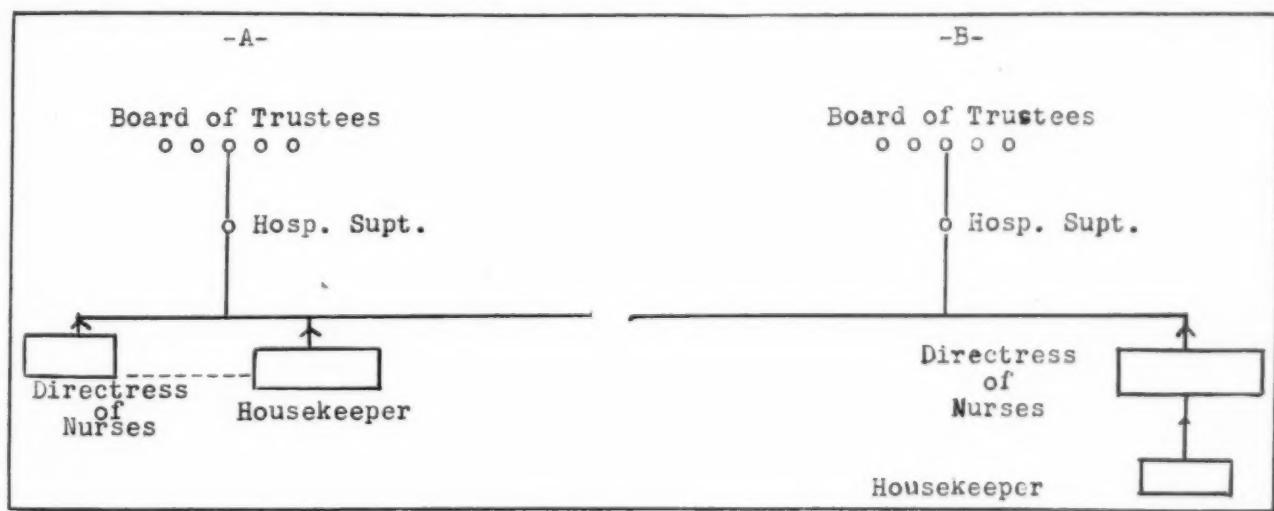
The relationship of the school for nurses to special women's boards is often intricate and unsatisfactory. This is particularly true if partial or complete financial support for the school originates in such a committee. Women's committees can only function satisfactorily if they are

administrative details, friction must sooner or later develop, and both the morale of the school and the hospital itself harmed.

It is the purpose of this discussion also to mention the intermeshing of the activities of the school for nurses with those of other hospital divisions.

Much has been said and written about the responsibility of the directress of nurses for hospital housekeeping. In some institutions there exists an official housekeeper who is responsible for the cleaning and sanitary supervision not only of the hospital itself but also of the nurses' home. The lines of authority affecting this officer are parallel with those of the directress of nurses and converge at the superintendent's desk. The directress of nurses has no authority to command or to condemn the efforts of the former. Her nurses work in surroundings that are clean or insanitary, in direct proportion to the capabilities of the housekeeper. Graph 2 illustrates two types of organization.

Section A of Graph 2 can be seen to present the possibilities of serious personal and administrative difficulties. To be sure, directresses of



Graph 2.

integrated definitely into the hospital organization, and if the hospital executive and the directress of nurses are present at all meetings. It is not always easy for this fact to be impressed upon members of this type of committee, particularly if they are furnishing money to conduct the school for nurses.

The activities of such women's committees should be focused if possible upon the discussion of policies relative to conducting the school for nurses and upon interpreting to the public, from whence support and funds must come, the aims and principles of good nursing education. When such committees are tempted to delve into admin-

nurses are frequently happy to be relieved of any responsibilities for cleaning. There are still those, however, considered by some as old fashioned, who believe that nurses should have some understanding of and regard for the methods that can and should be adopted to make and keep sickrooms clean. Few of this group believe that nurses should consume any considerable portion of their time in scrubbing and dusting and yet some are of the opinion that, in the absence of other ways and means of rendering sickrooms sanitary, the nurse should not be averse to applying personally whatever methods are necessary to bring this about.

Section B of Graph 2, frequently representative of smaller organizations, possesses the virtue of simplifying the responsibility for proper housekeeping. In this instance, the directress of nurses is responsible for this work. In the presence of a competent housekeeper, however, she may be required to give but little of her time and attention to cleaning matters. She is empowered, however, in the absence of an efficient person, to require and not to request efficient work on the housekeeper's part.

Given the presence of dirty dressing rooms, under Section A, how shall the matter be corrected? It is a roundabout procedure for the directress of nurses to report this matter to the superintendent of the hospital in order to cause orders to be given to the housekeeper. The dotted line in this scheme will be seen to indicate a consultation relationship between the position of the directress of nurses and that of the housekeeper. Unless perfect understanding exists between these persons, however, a request for service is likely to be elevated to the status of a complaint, thus developing friction.

#### *Difficulties of Divided Authority*

When orderlies, responsible to the directress of nurses for attention to patients, are also assigned cleaning duties, a division of authority arises that often produces difficulties. In the absence of ward maids, nurses must sometimes perform dusting and other types of light cleaning. This is often the case in smaller hospitals, and frequently the absence of an official housekeeper obviates administrative friction under such circumstances. But even in the presence of ward maids, it is sometimes found necessary for certain directions to originate with ward nurses, and, as a result, a sensitive housekeeper is prone to feel that her prerogatives are being encroached upon. The aim in solving this type of problem must be so to organize the personnel that efficiency will not depend upon tact and a pleasing personality, but upon cold, matter-of-fact, administrative organization.

The responsibility of the directress of nurses for the requisition and inventory of surgical supplies is difficult to define because of variations in institutional organization, and because of differences in the type and size of hospitals. Some directresses of nurses object to the assumption of any property responsibility, because, as they say, they are so busy caring for patients. On the other hand, since the use of ward supplies is wholly in the hands of the subordinates of the directress of nurses, she must be in a large measure responsible for the protection of this type of property.

It is difficult to lay down any standard as to the quantity of any given type of article necessary for a ward unit. The quality of rubber goods, for example, varies so greatly that there is no average life for such articles. Standards for linen supplies are perhaps more easily set, and yet there is a great variance in the manner of requisitioning, storing and renovating this type of hospital commodity. There is considerable difference of opinion as to whether the school for nurses should have a storeroom of its own, and, if so, as to what quantity and type of articles should be kept therein.

The directress of nurses is usually responsible for the issuance of thermometers, needles, syringes and surgical instruments of various kinds, enamel ware and rubber goods, including rubber sheets. She is also, through her supervisors, charged with the care and protection of certain apparatus, such as blood pressure machines, microscopes and manometers. She should be required to prepare inventories, either monthly or quarterly, covering the articles in the possession of her subordinates, who should be instructed to return wornout or broken articles before new ones will be issued. This applies to the so-called nonexpendable articles as denominated in the U. S. Army nomenclature.

The great difficulty in this respect arises in implanting a sense of property responsibility in the minds of pupil and graduate nurses. To conduct practical demonstrations of the cost of such basic articles as catgut, gauze, adhesive plaster, syringes and thermometers has been found to be a useful method of accomplishing this. If the superintendent of the hospital does not actually take part in such demonstrations, he should at least cooperate by furnishing to the directress of nurses information as to the costs and quality of the articles displayed.

#### *Directress Has Varied Responsibilities*

The relation of the directress of nurses to the upkeep of the hospital is not always definitely outlined. If an adequate administrative staff is available to make possible detailed inspections of the hospital at frequent intervals, the nursing staff need have no concern as to the physical upkeep of the institution. On the other hand, if such is not the case, it often becomes necessary for the directress of nurses to require her subordinates to requisition minor and major repairs. The presence of broken window panes, loosened plaster, leaking faucets, exposed electric wires and similar defects is often made known by a ward nurse by means of requisitions forwarded through her supervisor to the superintendent.

If coincident rounds can be made by the superintendent of the hospital and the directress of nurses, each noting the matters requiring the attention of his or her subordinates, the solution of this difficulty is more easily reached. When the positions of the superintendent of the hospital and the directress of nurses are combined in one person, there will be no difficulty of this sort.

There should be no misunderstanding as to the relationship of the directress of nurses to private duty nurses. On the other hand, it is sometimes felt by the latter that there is no authority in the institution which controls their actions except that of the physician attending the case on which they are engaged. This feeling has no justification in fact and the directress of nurses must be given as complete authority over private duty nurses in the institution as she has over the supervisory or ward nurses, for the service of which the hospital is paying.

The relationship of the directress of nurses to the resident staff is frequently difficult. Young physicians are prone to disregard or, at least, to consider lightly hospital rules and technique. If a medical administrative officer is always at hand to enforce these rules, all will be well. In the absence of any such person, the enforcement officer is likely to be a supervisory departmental nurse. Herein lies the possibility of friction. To overlook such derelictions is to subject patients to possible harm, at the same time lowering educational standards. To report them to a superior officer is to incur the displeasure of the physician. Tact, discretion and the proper evaluation of the effect on the patient of such derelictions are necessary to prevent personal difficulties from arising. The superintendent of the hospital should understand thoroughly the possible difficulties to be encountered in this relationship.

This discussion will be continued in the April issue of THE MODERN HOSPITAL.

## Doctors of Future Learn Dietetics at Johns Hopkins Hospital

What newspapers have referred to as "a course in cooking given by a Johns Hopkins professor to fourth-year medical students" resolves itself into a course in dietetics taught by Dr. George A. Harrop, Jr., at Johns Hopkins Hospital, the *Forecast* for January says. In the interview, Doctor Harrop describes his course as a study of diet in relation to particular physiological conditions or diseases. Not only should the young doctor be able to tell his patients what or what not to eat, but he should be able to recommend ways in which to prepare the diet. Or if his patients are poor and cannot afford certain needed but expensive foods, he should be able to recommend substitutes of similar dietetic value.

Doctor Harrop continues: "At the present time our course at Johns Hopkins Hospital consists of about sixteen lectures, supplemented by food demonstrations. These include methods of weighing, the caloric value of common foods, the preparation of trays and the esthetic values involved—for, as you know, the psychological factor of the appearance of food is a consideration in sickness.

"We have to show our students the types of cooking in common use and see that they know which method is required in a particular instance. As far as we can, we work with actual cases here in the hospital. That is, the students submit as class exercises what they think should be the diet for a particular patient and compare their exercises with the actually prescribed diets."

## Hospital Used for Charitable Purposes Is Tax Free

That a city has no right to tax the property of an institution used for charitable purposes was held by the supreme court of Tennessee in a suit brought by the city of Nashville against the Baptist Hospital. The lower court had in a previous judgment held that the hospital was free from taxation, whereupon the city appealed to the supreme court.

As recounted by the *Journal of the American Medical Association*, the facts presented in the case showed that the hospital charged fees for hospital services rendered to about 85 or 90 per cent of all patients, the remaining 10 or 15 per cent receiving free service; that any reputable white physician could use the facilities of the hospital in treating his private patients on the payment by such patients of the fees charged by the hospital; that only white patients are admitted to the hospital; that patients suffering from contagious diseases are not admitted and that the hospital had operated at a loss until the several months preceding the suit during which time a profit was made.

The charter of the Baptist Hospital clearly stated that the purpose of the organization of the corporation was for the general welfare, and not for profit, and that any income derived therefrom was not to be paid out on dividends to any person or corporation, but to be used for general welfare purposes.

The supreme court pointed out that the test of whether an enterprise is charitable is whether it exists to carry out a purpose recognized in law as charitable, or whether it is maintained for gain, profit or private advantage. If an association may otherwise be classed as a charitable one, the fact that it receives pay from some of its students, inmates, patients or other persons to whom it extends benefits detracts nothing from its character as a purely charitable institution.

"Hundreds of religious and benevolent organizations conduct drives, solicit donations, and in other ways raise large sums of money for the express purpose of building, equipping and operating hospitals," the court emphasized. "The donors make their contributions knowing that they will receive no pecuniary benefits in return. Such gifts cannot be otherwise denominated than charities, the clear intention of the donors being to provide for those unfortunates who are sick, diseased and disabled and without means to procure necessary medical care and treatment. Those who are able should pay, for, by doing so, it enables the institution to care for more persons who are unable to pay."

# Editorials

## The Hospital and Its Nurses

**E**LSEWHERE in this issue reference has been made to the obligation the graduate nurse owes to her hospital and to its board of trustees. Such comment would at first glance seem incendiary, superfluous and ill-timed. But too frequently there are signs that all is not well between the nurses' alumnae association and the hospital whose name it bears. If a nurses' registry is maintained by the institution, one with ordinary acuity of hearing detects rumblings from the graduate body that its rules are unfair to the nurse; that the hospital is prone to meddle with the matter of hours and wages; that it is chary of its privileges and its service to nurses who are its own graduates.

School loyalty is a fine tradition, which dwells on the shady campuses of both venerable and youthful colleges. There is no finer or more deeply rooted allegiance than that which dwells in the heart of the "old grad" for his Alma Mater. But college graduates, new and old, do not expect their school to educate their children without cost to them, nor do they expect to interfere in any way with the administration of the institution they love and respect.

The graduate nurse, be she a member of a hospital alumnae association or not, has an equally definite obligation to the institution in which she was professionally prepared for her life work. To be sure, no nurse gained her degree without rendering to her hospital faithful service. The present system of nursing education is a cooperative venture. But the nature of this relationship should generate in the nurse a love for and a loyalty toward her hospital which contact with a calculating world should only refine and strengthen.

Perhaps this unfortunate attitude on the part of some alumnae associations is but a natural reaction to the maternalism which to a degree is a necessary accompaniment of student nurse days. Maybe it represents a phase of the apparent inclination of the day to indulge in destructive rather than constructive criticism of everything. Whatever the underlying cause, disloyalty is always a despicable quality and one that does not profit the nurse and certainly shakes the faith of the community in its hospital.

If institutional policies appear unfair to the graduate body, there is but one place to register a protest, and that is with the governing board

and not with the public. All may learn a lesson in exalted unquestioning loyalty to a cause, from the verdant freshman, who yearns to die for the glory of his Alma Mater. But even though tempered by years and experience, the loyalty of the graduate nurses of a hospital should be as fine and as lasting as that of the alumnae of any school of higher education. And this support must represent more than lip service—it must be generated and actuated by a firm conviction that her institution is the best that exists in the community.

## The Chemist Again Aids the Patient

**P**OSTOPERATIVE pulmonary complications constitute much dreaded sequelæ of all surgical procedures in which a general anesthetic has been employed.

Many factors appear to predispose to these unfortunate occurrences but there are several that are outstanding. Mucous membrane infection of the respiratory tract, present at the time of operation; exposure to cold en route to and from the operating room; the inhalation of infected mouth secretions or food detritus, are all believed to be capable of producing pneumonia or abscess of the lung.

Nor must the rôle played by the presence of irritant impurities in the anesthetic employed be overlooked. Ether itself, in its purest state, is capable of causing in some degree an irritation, and a subsequent congestion of the delicate alveolar tissues, through which this gas reaches the blood stream. In a contaminated state, this action is measurably accentuated.

Hospital superintendents, visiting and resident surgeons and nurses of all grades, have for years bent every effort to remove every factor that might work harm to the postoperative patient.

But the purity or impurity of the anesthetic used is a matter over which the surgeon has but little control. True, he may insist on a nationally known and generally approved product, but even then he is causing to be administered to his patient a drug concerning the manufacture and possible impurities of which he has no knowledge.

It is to the credit of the research departments of outstanding chemical firms that in the past few years much time and money have been spent to discover what could be done to render sulphuric ether free from the impurities that at times it is found to possess.

Every treatise on therapeutics mentions as the possible oxidation impurities of ether, the peroxides, acetaldehyds and organic acids. The United States Pharmacopeia directs that "ether must be

preserved only in small well closed containers, and is not to be used for anesthetic purposes if the original container has been opened longer than twenty-four hours."

Now it has been found that in ether that is of unquestioned purity at the time of manufacture there may later appear, as a result of some ill-understood process, peroxids and what seem to be lower products in this chemical chain, aldehyds, and finally organic acids. Chemists have apparently demonstrated that the first of this group, peroxids, usually are to be found within six months after the manufacture of the ether. Later, this impurity disappears, and aldehyds and acids present the end products of the oxidation of the peroxids.

Now, while it cannot be definitely proved that bronchopneumonia, for example, results from the inhalation of impure ether, yet it is wholly rational to expect that any irritant or toxic impurity in the anesthetic will predispose to pulmonary or neurologic damage.

Since the modern processes used in the manufacture of ether are capable of producing a pure product, and because impurities are known to have developed during storage, attention has been focused on the type of container in general use, for an explanation of these changes. All ether containers in general use are designed to exclude light and air—sure producers of peroxids. But even in sealed and opaque tin or glass cans the drug becomes impure.

After not a little study it has been found that containers that have a definite area of copper in contact with the contents of the can are capable of preventing the formation of peroxids. This test extended over a period of two years. Notwithstanding this fact, it has been found that copper does not have the power to remove or destroy the peroxids once they are formed.

The knowledge of the nature and harmful effect of such anesthetic impurities should prompt hospital superintendents not to store ether for too long a period of time and to discard for anesthetic purposes all ether the containers of which have been opened twenty-four hours or longer. They should also inquire what steps have been taken by the manufacturer to prevent the formation of these oxidation products which are found to be harmful.

Finally, it should be remembered that most authorities agree that the passing of ether gas through water is capable of removing all of these impurities. This procedure, however, should not be substituted for a serious attempt to secure, at any cost, a pure and therapeutically efficient product.

## Staff Psychology

TO STAFF members the superintendent of the hospital rarely appears as one whose presence is sought in their homes or at social functions. To them, the executive is often a necessary evil, who irritates by requiring obedience to rules that are unquestionably desirable but are sometimes inconvenient and time consuming.

In most instances these institutional workers are not quite at ease in each other's presence. The physician distinctly remembers when he fumed because a piece of expensive apparatus was not forthcoming after a request therefor had been made to the superintendent. He suspected that the executive possessed other motives for withholding approval of this purchase than the mere scarcity of funds. He is inclined to exhibit a kind of petulance—a spirit of hopelessness—when the desired supplies or equipment are not forthcoming.

At any rate, the doctor resents the fact that a mere layman—a former merchant or bookkeeper or clergyman—should venture to enter the sacrosanct realm of hospital medicine, which only *Æsculapian* disciples should enter. He is likely to be irritated by any insistence on the observance of institutional rules regarding medical technique, because in his mind, he alone is responsible for the welfare of the patient.

Instead of the surgeon verbally, if not physically, ejecting an ungowned and unmasked visitor from the operating room, the clinic supervisor is assigned this duty.

What are the underlying factors that give rise to this state of mind? Maybe those in authority exclude the physician from councils touching on hospital finance to an undesirable degree. Perhaps with regard to the East of administration and the West of professional care he is made to feel that "never the twain shall meet." It is possible that part of the censure for this situation should lie with the hospital. Maybe the superintendent and the board have adopted an academic method of discipline. Perhaps actual unfairness has existed in staff appointments or assignments to dispensary or ward space.

Whatever the cause, no spirit of ego or of inferiority may exist in either the doctor or the hospital director without unfortunate misunderstandings creeping in. Let professional, dignified, straightforward contacts exist between staff and management, but never suspicion, craftiness or backbiting. There must be a department of administration and a department of professional care, but each is helpless without the other.

## Talking It Over

NOW comes the month of war dedicated to Mars; the month of blustery storms when Nature is undergoing the labor pains of Spring; the month of head colds, bronchitis and pneumonia; the month of overcrowded hospitals. When are we going to get the respiratory diseases desynthesized so that we shall have some logical method of prevention? Here is a problem in which hospitals must play the major rôle. Out of this busy month of March, research promises great blessings.

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**I**F YOU want to commit mental suicide, pity yourself. There is nothing which is more destructive to efficiency excepting booze or drugs. As a matter of fact, self-pity is a sort of autogenous dope since it creates a false world in which the mind takes refuge by being sorry for itself. Save your pity for other people, be less charitable with yourself and more kindly to those with whom you come in contact and you will be happy. Pity yourself and you will be an inefficient, unhappy weakling.

\* \* \*

**T**HE cure for the affliction of self-pity is work, not just going through with the day's tasks mechanically, not just getting by, but work which is whole-hearted, which puts into the task more thought, more energy and more inspiration than the bare requirements of the job. It is surprising what happiness work done in this manner brings; what lasting satisfaction follows upon it. When you think about your job instead of about yourself, joy is waiting for you just around the corner.

\* \* \*

**H**OW often does your hospital hold a clinical meeting with the local medical profession? Such meetings should take place at least semiannually and if properly conducted they are productive of tremendous good. They bring the institution into closer touch with the medical world. They stimulate the staff to the careful study of all cases and they bring to the staff much additional knowledge. Their effect upon the general public is more than good because in a measure they place upon the institution the medical society's stamp of approval.

\* \* \*

**T**HE true Father of Medicine was Apollo, God of the Sun, called by the ancients *Apollo salutaris*, Phoebus the curer. He rendered healthy the marshes and combated epidemics. His legendary battle with the serpent Python symbolizes his warfare against malaria. He was hailed as the discoverer of medicine and the giver of power to therapeutic agents. He fell in love with Coronis, the beautiful daughter of Phlegias, a Lapithian. Apollo set a crow—crows were white then—to watch her during the absences made necessary by his busy life. This guardian was not zealous and Coronis was smitten with a young Arcadian, Ischys, son of Elatos, to whom she promised her hand in marriage. The wedding feast was in full swing before the infidelity of Coronis was discovered by the crow. Hastening to Apollo, he confessed his negligence and apprised him of the situation. Apollo, in his rage, condemned all crows to eternal blackness. With his sister, Artemis, the chaste Diana, Apollo rushed to avenge himself. The swift arrow from his bow struck down his rival. Coronis fell pierced by a bolt from the bow of the Huntress. Dying, she cried, "I am avenged because in killing me, you slaughter also your child unborn." Apollo, grief-stricken, strove to revive her but she died. With

his knife he opened her abdomen and hastily extracted his son, still living. Thus was born *Æsculapius*, later to be nurtured and educated by Chiron, the Centaur. To *Æsculapius* were born three daughters, Aceso, goddess of the air, purified by the rays emanating from the sun god, her grandfather, Panacea, goddess of all-heal and Hygeia, goddess of health. Diana became the goddess of obstetrics while Apollo continued as health's god.

\* \* \*

**S**OME psychologist has observed that the truly artistic temperament enjoys being miserable. It is his contention that when we read of the trials, sufferings and unhappiness of some great musician, we should not pity him but should, on the contrary, be glad that he underwent those emotional trials. This same writer says that when we enjoy minor music, we are giving rein to the same morbid sentiment that enjoys pain. Like all generalities, these statements are not wholly accurate but no hospital worker of any experience is unfamiliar with that type of patient who "enjoys" poor health. Some of these are well-nigh incurable because this affliction of the temperament has a firm hold. We can, however, endeavor to interest them in the beauties of life, the trees, the birds, the green grass and the loveliness of flowers which were all given man for the uplift of his soul. Better still, and as a prime requisite, we should ourselves endeavor to pitch the music of our lives in the major key. Only when we have done that can we lead others into a realization of the beauty that is apparent to the seeing eye, no matter where it may be.

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**E**VERYTHING in life must be paid for. The price of the victory of success is hard, continuous, intelligent work. Hospital work is hard but its rewards in real satisfaction are great.

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**A**N EDITORIAL writer in the *New York Medical Journal and Record* points out the fact that it is time for the profession of public health to get back to the bedside and that there must be a re-mating of clinical and preventive medicine. So long as the sanitarian was engaged in the combat with those diseases that had been clearly differentiated, the two could walk separately, but now that many of these problems have been solved, they must get together again in order that disease groups may be split into their integral parts and attacked separately. This throws upon the hospital increasing public health duties and responsibilities, and demands an increasing spirit of cooperation between curative medicine and prophylaxis.

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**I**T HAS been said many times before and will be frequently repeated in the future that no nurse can survive scandal. In this age of liberty and license, it is easy enough to forget this and the nurse who does not realize that she stands in the mind of the public as a symbol for all that is pure and good may, by her conduct, expose herself to tongues that love to magnify and repeat scandal as gossip. It is all very well to say that nurses are no different from other human beings. The fact remains that the public thinks they are and, what is more to the point, demands that they live on a higher moral and ethical plane than the average woman. The nurse who does this is the noblest handiwork of God and she who does not soon ceases to be a nurse in anything excepting name.

## YOUR EVERYDAY PROBLEMS

*A department devoted to the informal discussion of problems arising in the everyday life of the hospital superintendent.*

[No attempt has been made to offer final conclusions relative to the questions considered in this department. THE MODERN HOSPITAL will gladly welcome further comment by its readers on any of these problems, or the presentation of other queries for discussion in later issues. —Editor.]

### How Can Contagion Be Prevented in Children's Hospitals?

The inquirer asked whether the parents should be charged for the board of a child caught in a hospital quarantine.

One of the most unfortunate situations that can arise in a general hospital is for a ward to be placed under quarantine as a result of the development of some type of contagion in it. This is so, because not only are the beds in that area of no use to the community during the period of quarantine, but also because the patients who are being treated in the ward are detained in the hospital over an indefinite period of time and are subjected as well to the possibility, if not the probability, of contracting a potential serious contagion. Often the development of such conditions within the children's ward appears absolutely unavoidable. Sometimes visitors are believed to be the source of this difficulty. Again a child may be admitted to the hospital while incubating a contagious disease.

But the hospital can do much to prevent the exposure of other children to contagious diseases. Particularly during the fall and winter months the hospital should endeavor to isolate all new admissions for a period of at least ten days, or two weeks preferably. If this cannot be done, and a contagious disease does develop, an auxiliary children's ward may be improvised so that the care of these patients need not be seriously interrupted.

Whether the hospital has taken the above precautions or not, when a quarantine becomes necessary, it would seem that parents should not be charged for the board of a child who is detained beyond the period at which it would normally be able to leave the hospital.

### Should the Chief of Staff Be Elected Annually?

The worst disease that can attack a hospital is "rutting." This condition is likely to arise when persons are allotted the same duties, and practices are continued over too long a period of time. The election of the members of the staff annually, seems to stimulate a more sustained activity and interest on their part to maintain their positions.

The chief of staff, since he is more important to the hospital than perhaps any individual member without such a title and prerogatives, could not be changed as readily as an individual member of the staff without working harm to the hospital. On the other hand, it would not

seem wise to guarantee even to this officer an unlimited tenure of office. It should not be forgotten, however, that the chief of staff is invariably more fully informed than most of his colleagues concerning the traditions and practices of his institution and of the traits and attainments of its visiting physicians. Perhaps it would be wise to elect this officer for a period of three or even five years depending, of course, upon the retention of his position as a staff member. At the conclusion of this period, it has often seemed advisable for this officer to retire in favor of another staff member who has demonstrated the administrative and professional abilities necessary to leadership.

Nor does it seem always wise to designate a physician as chief of staff because of seniority of service. Occasionally younger staff members demonstrate marked initiative and administrative ability, and hence, are more useful to the hospital than those who have attained, perhaps, greater scientific eminence. It should not be considered derogatory in any way to the dignity and the personal attainments of the chief of staff, for such a rotation of appointees to his position to take place. Since this physician serves in a liaison capacity between the staff and the board of trustees, he should be selected with the greatest of caution. If there does not seem to be any other physician who enjoys the confidence of both the board and the staff generally, it would be of far greater benefit to the hospital to continue this officer until a capable substitute had been developed.

### Should the Pathologist Be Allowed to Perform Clinical Work?

In the hospital from which this question emanated the pathologist has interested himself in the clinical aspect of the study of disease as well as in his own specialty. He has evolved a theory in regard to the specificity of a certain micro-organism in causing an infectious disease and desires an opportunity to observe clinically the effects of a serum that he has prepared in his own laboratory. A difference of opinion has arisen as to whether this serum should be administered by the pathologist personally or whether it should be done under the direction of a member of the visiting staff.

The modern trend, it seems, is for the pathologist to be less and less a person who is isolated in a laboratory room, performing all of his work without any approach to the patient. Clinicians, too, are more and more seeking the advice of the pathologist in the study and treatment of disease. As a result, the pathologist is emerging from his seclusion and is becoming transformed from one who merely studies inanimate tissues into an active collaborator at the bedside.

To be sure, as in the hospital above mentioned, jealousy sometimes arises when it is suggested that the pathologist be permitted to invade the field of clinical medicine. In

one hospital, however, the visiting staff has been generous enough to recommend the assignment of a few beds to a pathologist, who is also an able clinician, in order that he may apply at first hand, his bacteriological knowledge in the treatment of disease.

Breadth of vision is required when such a request comes to the executive committee of a visiting staff. Nevertheless, if it can be proved that lost motion is eliminated by obviating a third person in any specific study, it would seem that the patient's interests could best be served by allowing a qualified pathologist certain clinical privileges. It should not be forgotten that Jenner, Holmes and Morton, as well as many other investigators, were definitely delayed in proving their theorems because clinical material was not available.

### Who Should Inscribe Laboratory Reports on the Patient's Chart?

One of the complaints so often heard about the hospital is that there is undue delay in securing information relative to the results of the examination of specimens that have been sent to the laboratory.

There are often many reasons for this delay. Sometimes, specimens have been lost in transit to the laboratory. At times, the laboratory itself is at fault. Frequently the examination has been properly made and the report filled out, but through the carelessness of some person the resulting information never reached the patient's chart. It is commonly the custom for the laboratory to be responsible for the return of these reports to the ward just as it is the duty of the ward to transmit the specimen to the laboratory. The taking of blood for cell count and for cultures is often left in the hands of a physician assigned to the laboratory.

In some hospitals, a technician or clerk not only delivers the reports to the ward but also inscribes the report on the chart. This practice, however, is not the rule. If a messenger from the laboratory has delivered report cards to the ward, and has been given a receipt, it is more often the nurse's duty to see that they are properly copied upon the laboratory sheet. Nevertheless, this system has its drawbacks because of faulty spelling or incorrect copying of numerals representing blood counts, hemoglobin estimations and blood chemistry studies.

It would seem that it is the best practice to require that the laboratory deliver the results of clinical examinations to the hospital ward, and that the nurse place these slips under the clip of the patient's chart. If the intern copies the results of laboratory studies, he perforce must be informed as to the most recent laboratory findings in the patients under his care.

### Is the Percentage of Negative X-Ray Reports a Criterion of the Hospital's Clinical Work?

In the hospital asking this question, it has been found that in 75 per cent of the examinations made in the x-ray department, no pathological condition was found. The superintendent was greatly surprised to learn that three-fourths of the examinations made returned no information of a positive nature. He has asked *THE MODERN HOSPITAL* whether any definite percentage of negative reports is to be expected and whether, when this percentage is exceeded, there is not a suggestion that careful clinical work is not being done by visiting physicians and surgeons.

There is no question in the minds of many who have considered this subject but that a strong tendency exists to substitute a request for x-ray studies for a careful

clinical examination. Nor is there any uncertainty as to the fact that in a considerable percentage of cases, the same information that is expected from the less time consuming—from the clinician's standpoint, at least—x-ray study, may be secured by a careful physical examination.

In some institutions, the intern is permitted to requisition the services of the x-ray department without any visé of his chief or of a resident officer. It is to be expected that under these circumstances, the x-ray department will be requested to do more work than is necessary. It is just as certain, however, that there will be a considerable number of negative reports returned from the x-ray department under the most favorable of circumstances. Nor is it to be inferred that a negative report has no scientific value to justify the study.

On the other hand, it would appear that the superintendent should seriously investigate the reason for the large percentage of x-ray cases in which no pathological condition could be detected. It is not possible to set down any figure beyond which inefficiency of the clinical departments is indicated. A fruitful subject for discussion at a staff conference would be ways and means of reducing unnecessary x-ray studies and thus preventing a considerable outlay of money as well as the consequent useless expenditure of the patient's time. It is almost axiomatic that the more complete and careful the physical examination the less the assistance needed from specialty departments to bring about a true diagnosis of the patient's difficulty.

### How Should the Social Service Director Act Toward the Untrained Worker?

A considerable lack of understanding at present exists on the part of members of boards of trustees, social service committees and others as to what constitutes a well trained worker. As a result of this, as well as of other circumstances, a totally untrained worker is sometimes added to a staff that has hitherto consisted only of well equipped young women. It does not seem fair to require training in one instance and to ignore its absence in another. Nor is it just to the director of a hospital department to expect her to pause in her busy day's work to inculcate in the mind of a new aid the basic principles of good social work.

A new employee of this type, moreover, should not receive the same recompense for her labors as do those who have spent time and money in fitting themselves for their profession. Such a situation arises too frequently in private institutions. Its occurrence is certainly not a rarity in public hospitals. This is particularly true when hospital employees are selected as a result of competitive examinations, and where there is a particular lack of information on the part of the appointive body concerning the type of work a social worker is required to perform.

It would appear that the director of a department should always possess at least a recommendatory power in the selection of new workers. It would seem that the morale of her department cannot be maintained if the policy of appointing untrained workers to her staff is pursued. The possibility of such an occurrence is increased when the work of a social service department is looked upon as being more financial than medical. In such a situation, it can be contended with some justice that no prolonged course of instruction is required to fit one for successfully appraising the patient's economic status.

It is dangerous to countenance the substitution of an acquired or inherent business ability for the possession

of a medical social training. The social service director, when the above problem is presented to her, should endeavor to convince her superior officers of the certain extravagance of employing untrained help as well as to impart some information concerning the basic principles of social work. It is impossible to maintain a high morale in any hospital department if educational standards are ignored.

### Is An Operating Room for Pus Cases Necessary?

In several institutions, the question has arisen as to whether it is safe to perform operations upon patients in instances where pus is sure to be encountered, the operations to be performed in the same room in which noninfected patients are to be treated later. To be sure, this is being done in many localities with apparent safety. Many there are who agree that the transference of infection from one patient to another is brought about by unclean hands, dressings and instruments. Public health officials are able to cite many instances of the successful treatment of one contagion in the same room, and even in an adjacent bed, with another of an entirely different nature.

Many hospitals exist for years with but one operating room. On the other hand, it cannot be denied that the so-called aseptic technique in nursing is a matter in which the human equation enters very largely. It is certainly true that the proper sterilization of instruments, linens and dressings should insure adequate protection against the infection of a succeeding case by a preceding grossly infected one. Nevertheless, since crossed infection is of such a serious moment to the patient, good judgment should prevail against incurring any risks that may be avoided.

An ideal arrangement is for each operating suite to include a room that is perhaps less completely equipped and less adequately lighted than the others in which patients, with such gross infectious conditions as empyema and generalized peritonitis, can be surgically treated without soiling the rooms used for clean cases. Nor is this a concession to the beliefs and phobias of past centuries. It should and does represent but an extra precautionary step every hospital ought to be willing to take in order to protect the lives of its patients. Into this unclean operating room can be taken unfortunate complications such as gas gangrene, virulent streptococcal infections, cases of cellulitis resembling erysipelas, as well as other unusual surgical conditions of this type.

### How Can the Hospital Prevent Loss From the Loaning of Crutches and Other Surgical Aids?

In the hospital for the acutely ill the patient is often allowed to go home before his convalescence has been completed. In the surgical wards, patients who have suffered fractures of long bones and who have learned to use crutches are sometimes confronted with a prolonged stay in the hospital, or else with the possibility of taking to their homes, crutches, splints and other surgical aids that have been furnished them during their hospital stay.

From an economic standpoint, it would be financially advantageous to the hospital to lose a pair of crutches costing two dollars rather than to maintain a patient who is unable to pay for his care until he can walk without their aid. The same may be said of Bond splints and various other types of fracture apparatus. Many times a loan of such hospital equipment can be safely made and the patient can be trusted to return the hospital's property when he is through with it. This matter can

usually be supervised by the surgical dispensary. No problem of course exists where the patient is able to make a deposit when he is allowed to leave the institution, this fee being returned when he brings back the hospital's property.

In cases where patients have been tracheotomized, the need for the tracheotomy tube is imperative. A tracheotomy tube is likely to cost the hospital from five to seven dollars. In the case of patients who are suffering with tuberculous laryngitis and particularly those in hospitals for contagious diseases where tracheotomy tubes must be worn for a longer or shorter period, the loss to the hospital becomes considerable through the donation or loan of these articles.

But the same may be said here in regard to the saving of money for the maintenance of patients as compared with the expense of the tracheotomy tube. It is considered a wise practice for the hospital to insist that the patient sign an agreement to reimburse the institution for property of this sort on a deferred payment plan. The patients are more appreciative of the hospital's effort if they are required to pay for services they have received even though this payment is made over a considerable period of time.

Finally, it may be said that the patient's interest must be considered first, and that if his return to economic usefulness will be favored by the loan of such equipment as has been mentioned, the hospital must uncomplainingly stand any loss it suffers through this practice.

### Who Is Responsible When a Hospital Service Has Too Low a Bed Occupancy?

A certain hospital has found that it is unable to furnish proper experience for its nursing staff because one of its major services runs a persistently low bed occupancy. Every effort has been made in this institution to improve the physical arrangements for the care of these patients. The community, while not thickly settled, should furnish sufficient patients to provide for an active service in this department. An active dispensary is associated with this service. The trustees wish to know how to proceed under the above circumstances.

In selecting a member of the hospital staff, the board of trustees usually seeks not only for a high grade of scientific ability, but also for a loyalty to, and support of its institution that will result in patients' applying for admission not only to private rooms but to wards as well. The trustees have a right to expect that when they make a staff appointment the recipient will aid them in providing material not only for teaching but also in maintaining the income of the hospital.

The chief source from which hospital ward patients are secured is through the dispensary. When a member of the visiting staff has charge of the out-patient department corresponding to his service, the responsibility for a high grade of efficiency both in the in-patient and out-patient departments is definitely his. When few patients seek admission to the hospital, the reason must be sought either in an inadequate hospital service, or else in the personal or professional attributes, or lack of them, of members of the visiting staff. The board of trustees is perfectly justified in asking these members of the staff to explain why so little clinical material is found in their service. If some good reason cannot be given, it appears that a change in the personnel of the staff, in that particular department, would doubtless be justified. Staff members fail in loyalty to their hospital when they refer cases elsewhere.

## NEWS OF THE MONTH

# Illinois and Wisconsin Find Joint Meetings Profitable

MORE than 350 persons registered at the joint meeting of the Hospital Association of the State of Illinois and the Wisconsin Hospital Association held at the Hotel Sherman, February 20 and 21. This is the second year that the two associations have met together, and the increased attendance was sufficient proof of the success of this arrangement.

The first session was opened with Dr. J. W. Coon, president, Wisconsin Hospital Association, in the chair and after invocation by the Rev. Wilson E. Donaldson, chaplain, Cook County Hospital, Dr. Arnold Kegel, Commissioner of Health, Chicago, gave the address of welcome in which he told of the cooperation between the health department and the hospitals of the city. Asa S. Bacon, president, Hospital Association of the State of Illinois, gave the response.

The first paper was entitled, "Why Both Large and Small Hospitals Should Do More Research Work." This was read by the Rev. Alphonse M. Schwitalla, president, Catholic Hospital Association and dean, Medical School, St. Louis University, St. Louis. Father Schwitalla pointed out the advantages of research and laboratory work and told of the cooperation necessary if it was to be of benefit to the patient. His paper will be published in the April issue of *THE MODERN HOSPITAL*. Dr. R. C. Buerki, director, University of Wisconsin Hospital, Madison, Wis., lead the discussion of Father Schwitalla's paper. A paper prepared by Dr. James B. Herrick, honorary president, Chicago Heart Association, entitled "The Treatment of Heart Disease in the Hospital" was then read.

The last subject on the program was a talk on "Why Hospitals Should Cooperate With the Daily Newspapers," given by John A. McNamara, executive editor, *THE MODERN HOSPITAL*. This was discussed by Matthew O. Foley, managing editor, *Hospital Management*, and by Dr. E. T. Olsen, formerly superintendent, Englewood Hospital, Chicago.

### *Capacity of Meeting Room Taxed*

The second session was conducted by Mr. Bacon as president of the Hospital Association of the State of Illinois. This session proved to be of unusual interest and the attendance was so great that the capacity of the meeting room was taxed. An excellent discussion of anesthesia economies and the prevention of fire and explosion in the anesthesia room added great value to the meeting. Dr. Isabella Herb, chief anesthetist, Presbyterian Hospital, read the first paper and it was ably discussed by Charles Karrow, superintendent, Columbia Hospital, Milwaukee, and by A. H. Nuckolls, chief chemist, Underwriters' Laboratories, Chicago.

The second subject discussed was on the care of fracture cases and a paper was read by Dr. Kellogg Speed, member of the committee on fracture cases, American College of Surgeons.

Last on the program was a symposium on "Nurses, Patients and Pocketbooks" with E. I. Erickson, superintendent, Augustana Hospital, Chicago, first reading a paper entitled "Nurses" prepared by Grace Craft, superintendent, Madison General Hospital, Madison, Wis. This was followed by a talk by Dr. Ralph Seem, director, Albert Merritt Billings Memorial Hospital, Chicago, on "Patients" and finally a talk by E. S. Gilmore, superintendent, Wesley Memorial Hospital, Chicago on "Pocketbooks." There was more discussion on this symposium than was expected with the discussion being led by Dr. W. A. Henke, Grandview Hospital, La Crosse, Wis., and Amelia Dahlgren, Lutheran Hospital, Moline, Ill.

### *Dr. Timothy Stone Is Banquet Speaker*

The annual banquet was held in the evening with E. S. Gilmore, toastmaster, and the Rev. John Timothy Stone, Fourth Presbyterian Church, Chicago, as the principal speaker. Doctor Stone took as his topic, "Hospital Ideals," and delivered an excellent oration on this subject. Mr. Gilmore then introduced those at the speakers' table among whom were Doctor Coon, L. C. Austin, secretary, Wisconsin Hospital Association, Mr. Bacon, Dr. Bert W. Caldwell, executive secretary, American Hospital Association, the Rev. Gottfred Nelson, vice-president, board of trustees, Augustana Hospital, Dr. Christopher G. Parnall, president-elect, American Hospital Association and Dr. Donald C. Smelzer, president, Minnesota Hospital Association.

Doctor Coon acted as presiding officer at the first session on Wednesday and the first subject on the program was "Requirements for Recognition" discussed by representatives of the three national bodies. Doctor Caldwell told of the requirements for membership in the American Hospital Association, Dr. E. W. Williamson outlined the requirements for approval by the American College of Surgeons and Dr. N. P. Colwell spoke for the American Medical Association. Dr. Herman N. Bundesen, coroner, Cook County, was to have spoken on "The Coroner and the Hospital" but due to recent gang murders in Chicago he was unable to be in attendance at the meeting to present his paper.

A paper entitled "Improvement in Hospital Construction in the Past Five Years" was read by Carl A. Erickson, architect, Schmidt, Garden & Erickson, Chicago. It appears in this issue on page 49. This paper was discussed by Dr. Robinson Bosworth, superintendent, Rock-

## News of the Month

ford Municipal Tuberculosis Sanatorium, Rockford, Ill., and Dr. Herman Smith, director, Michael Reese Hospital, Chicago. Due to the length of the morning session some of the discussion and part of the program were carried over until afternoon.

At noon a luncheon was held which was followed by business meetings of the two associations. At the Wisconsin meeting Doctor Coon was reelected president of the association and at the Illinois meeting, J. W. Meyers, superintendent, Aurora Hospital, Aurora, Ill., was elected president. At the Wisconsin meeting a resolution inviting the Illinois group to meet in Milwaukee with Wisconsin was passed and at the Illinois meeting this resolution was referred to the executive committee.

At the last session at which Mr. Bacon presided, discussion on Mr. Erikson's paper was resumed and a paper scheduled for the morning entitled "The Household Side of Hospital Equipment," was given by Will Ross, Milwaukee. The round table on Everyday Problems was then conducted. Owen T. Weber, hospital and institution equipment engineer, Chicago, Elizabeth Tuft, Wesley Memorial Hospital, Chicago, H. T. Kleyenstein, Wesley Memorial Hospital, Chicago, William L. Coffey, Milwaukee, J. Dewey Lutes, Lakeview Hospital, Chicago, H. W. Sargeant, Milwaukee County Hospital, Wauwatosa, Wis., Sister Stephanie, St. Joseph's Hospital, Chicago, Ella C. Ingwerson, Methodist Hospital, La Crosse, Wis., William Stewart, hospital accountant, Chicago, and Clarence Baum, superintendent, Lakeside Hospital, Danville, Ill., were scheduled to speak.

The meeting was the most successful one that has so far been held by the two groups and it is thought that the attendance was greater than ever before at any hospital meeting.

### 43 Hospitals Represented at Council Meeting

The Hospital Council of Southern California held its annual dinner meeting on the evening of January 29 with more than one hundred persons, representing forty-three approved hospitals, present.

Dr. Frederic P. Woellner, associate professor of education, University of California, was one of the principal speakers. Doctor Woellner urged the hospital workers to remember that changes come slowly, that the minds of the general public are slow to accept change and that, therefore, the rapidly changing factors in scientific management must not be thrust too forcefully upon the potential patient.

The subject for general discussion was, "What Hospital People Think of the Public." W. F. Vail, manager, Pasadena Hospital, opened the discussion. He asserted that, in his opinion, the general public did not know nor appreciate the real function of the hospital. The fault, however, was the hospital's, he said, since it did not answer unjust criticism or take the public into its confidence. Mr. Vail urged the council to sponsor a publicity program that the public may know more about the work of the hospital.

G. W. Curtis, superintendent, Santa Barbara Cottage

Hospital, and president of the council, read a number of letters that corroborated Mr. Vail's assertions. G. W. Olson, superintendent, California Lutheran Hospital, Los Angeles, and treasurer of the council, followed Mr. Curtis in the discussion of Mr. Vail's paper.

### Dr. B. W. Caldwell Is Speaker at Denver Meetings

Dr. B. W. Caldwell, executive secretary, American Hospital Association, was the guest of honor and the main speaker at the annual staff dinner of the department of health and charity for the city and county of Denver, Colo., that was held on January 29. His address was one of deep interest to the staff members. Doctor Caldwell also stayed over an extra day for the meeting of the Denver Public Health Council that was held on the evening of January 30. The features of this meeting were the report on the health survey of Denver and an inspiring talk by Doctor Caldwell.

### Georgia Is Newest State to Form a Hospital Association

With the formation of a state hospital association on February 6, Georgia joins her sister states in a systematic attempt to solve hospital problems cooperatively and with benefit to all the institutions in the state.

More than thirty persons interested in hospitals, including a number of physicians, were present at the organization meeting held at the Macon Hospital, Macon, Ga. The next meeting of the association will be held in Macon, May 7.

Officers of the Georgia association were elected as follows: Dr. Joe R. Clemons, superintendent, Macon Hospital, president; Dr. C. S. Lentz, superintendent, University Hospital, Augusta, first vice-president; Annie Bess Feebeck, president, Nurses' Association of Georgia, second vice-president, and J. B. Franklin, superintendent, Baptist Hospital, Atlanta, secretary-treasurer. Members of the executive committee are Dr. James L. Bevans, superintendent, John D. Archbold Memorial Hospital, Thomasville, Ga., and Dr. T. H. Clark, Douglas, Ga.

### Ohio Association Sets Meeting Date for October

The Ohio Hospital Association will meet in Cincinnati during the first half of October it has been decided by association officers, although the exact date has not been fixed as yet.

The association has for some time held its annual meetings in April, but this year's meeting has been postponed to October so that it will not interfere with the meeting of the American Hospital Association to be held in Atlantic City, N. J., June 17 to 21.

## News of the Month

# Medical Congress Attracts Many Hospital Administrators

MANY hospital administrators and deans of medical schools with teaching hospitals attended the Annual Congress on Medical Education, Medical Licensure and Hospitals, held under the auspices of the American Medical Association at the Palmer House, Chicago, February 18, 19 and 20. The opening session was given over to medical education with Dr. Ray Lyman Wilbur, president, Stanford University, presiding.

On Tuesday Dean Maurice Rees, University of Colorado Medical School, presided at one of the three sessions held and at which the general theme was medical schools and teaching hospitals. The first paper was presented by Dr. W. S. Rankin, director, hospital and orphan section, Duke Endowment, Charlotte, N. C. Doctor Rankin outlined the work that was being done by the Endowment for better hospitalization in the Carolinas and told what progress had been made so far. He briefly stated the aims of the Endowment and outlined the steps that were being taken to accomplish these aims.

Dr. Charles R. Bardine, dean, University of Wisconsin Medical School, described the method pursued in Wisconsin in conducting the teaching hospital and its relation to the medical school. The last speaker at this session was Dr. Henry S. Houghton, dean, University of Iowa Medical School, who spoke on the university hospital, the community and the practicing physician. General discussion followed.

### *Convalescent Hospitals Discussed*

In the Red Lacquer room Dr. Burton D. Myers, president, Association of American Medical Colleges, conducted a meeting on the "Teaching of Related Subjects." Dr. Edward H. Hume, director, New York Post Graduate Medical School and Hospital, New York, read a paper entitled "Needed Development in Graduate Medical Education." This was followed by a paper by Dr. Thomas Ordway, dean, Albany Medical College, Albany, N. Y., on the subject, "A Medical School's Effort to Supply Physicians for Rural Communities." The last paper in this session was presented by Dr. Reginald Fitz, Harvard University Medical School, entitled, "Periodic Health Examinations as a Part of a Medical Student's Curriculum." Discussion followed.

Hospitals for convalescents proved to be a most interesting topic for discussion in the third section conducted by Dr. Harry E. Mock, president, Conference on Hospital Service. Dr. E. H. Lewinski-Corwin, executive secretary, Committee on Public Health Relations, New York City, told in some detail of the various convalescent centers of the country, under whose auspices they were conducted and the need for more and larger convalescent homes. This subject evoked much discussion in which the economy of convalescent homes to the community and to the general and tuberculosis hospitals was pointed out.

The second paper of the morning, "Cardiac Convalescence," was given by Dr. Newell C. Gilbert, associate

professor of medicine, Northwestern University, Chicago. The treatment that cardiac cases can receive in convalescent homes, the work that the homes are able to do and the advisability of having such homes were points stressed by Doctor Gilbert. The annual report of the American Conference on Hospital Service and the Hospital Library and Service Bureau was submitted by Donelda Hamlin, director, Hospital Library and Service Bureau, Chicago.

Other sessions of interest to hospital administrators were those on the hospital internship and the hospital staff conference.

### Protestant Hospital Trustees Hold Mid-Year Business Session

The trustees of the American Protestant Hospital Association held an executive meeting in the La Salle Hotel, Chicago, February 5, to discuss its mid-year business.

Endorsement was given to the International Hospital Congress. Dr. J. H. Bauernfeind, president, American Hospital Association, and Dr. Frank C. English, secretary, were appointed to represent the association at the international congress and to invite delegates from the congress to the Protestant convention. The Hotel Traymore, Atlantic City, will be the headquarters for the Protestant convention, that opens Friday, June 14 and continues until Monday, June 17.

The committee gave special attention to the making of its convention program and practically completed its work by developing a program dealing with subjects of practical and timely interest to all hospital workers and friends.

A special campaign membership committee was appointed. Members of this committee are Dr. Malcolm T. MacEachern, John A. McNamara, Matthew O. Foley, Asa Bacon, E. S. Gilmore and Dr. J. H. Bauernfeind. It was pointed out that the association now has 375 members. It was also emphasized that there are 300 additional Protestant hospitals and many trustees and staff members who should be invited to membership.

### *Committees Assist Hospitals*

The work of the administrative consulting committees was strengthened by practical suggestions and outlines for their functioning. These committees are to give assistance to any hospitals in their districts on problems of hospital organization, planning, equipping, administration, financing, economic practice and on all questions dealing with hospital development.

It was recommended that the board of trustees be increased from its present number to twenty-one, from which an active executive committee will be selected. The treasurer made a gratifying report showing the interested response of all the members and their cooperation in the work of the association.

## News of the Month

### Coming Meetings

#### Alabama Hospital Association.

President, Dr. French Craddock, Sylacauga.  
Secretary, Clara Wells, R.N., Eufaula.  
Next meeting, Mobile, April 16, 1929.

#### American Hospital Association.

President, Dr. L. H. Burlingham, Barnes Hospital, St. Louis.  
Secretary, Dr. B. W. Caldwell, 18 East Division Street, Chicago.

Next meeting, Atlantic City, June 17-21, 1929.

#### American Protestant Hospital Association.

President, Rev. J. H. Bauerfeind, Evangelical Deaconess Hospital, Chicago.  
Secretary, Dr. Frank C. English, Hyde Park, Station O, Cincinnati.

Next meeting, Atlantic City, June 14-17, 1929.

#### Georgia Hospital Association.

President, Dr. Joe R. Clemons, Macon Hospital, Macon.  
Secretary, J. B. Franklin, Baptist Hospital, Atlanta.  
Next meeting, Macon, May 7.

#### Indiana Hospital Association.

President, Albert G. Hahn, Deaconess Hospital, Evansville.  
Secretary, Gladys Brandt, Cass County Hospital, Logansport.

Next meeting, Indianapolis, April 11-12, 1929.

#### International Hospital Congress.

Next meeting, Atlantic City, N. J., June 13, 14, 15, 1929.

#### Michigan Hospital Association.

President, Dr. Charles E. Stewart, Battle Creek Sanitarium, Battle Creek.  
Secretary, Robert G. Greve, University Hospital, Ann Arbor.

Next meeting, Battle Creek, April 25-26.

#### Minnesota Hospital Association.

President, Dr. Donald C. Smelzer, Charles T. Miller Hospital, St. Paul.  
Secretary, Joseph G. Norby, Fairview Hospital, Minneapolis.

Next meeting, Rochester, May 10-11, 1929.

#### National League of Nursing Education.

President, Elizabeth C. Burgess, Teachers College, Columbia University, New York City.  
Secretary, Nina D. Gage, 370 Seventh Ave., New York City.

Next meeting, Atlantic City, N. J., June 17-21.

#### Hospital Association of Pennsylvania.

President, Dr. E. E. Shiffristine, State Hospital of Coal-dale, Coal-dale.  
Secretary, H. E. Bishop, Robert Packer Hospital, Sayre.  
Next meeting, Philadelphia, March 12, 13, 14, 1929.

### Minor Hospital, Seattle, Closes

Because lately it has been operating at a loss, the Minor Hospital, Seattle, Wash., closed December 17, 1928, according to an item in the *Journal of the American Medical Association*.

### Feature Solariums at New St. John's Hospital

Age must ever give way to youth. Thus it was at St. John's Hospital, New York City, when, on January 11, all the patients were moved from the old building that has been in service for the last forty-seven years, to the new 233-bed building just completed.

In constructing the new building special attention was paid to the arrangement, construction and equipment of solariums. The walls of the sun rooms are painted with foliage. Summer furniture such as is found at beach resorts has been provided to furnish these rooms. Ultra-violet ray transmitting glass has been used exclusively in the solarium windows. The roof is so constructed that it can be used as a promenade by the ambulant patients, and porches that are shielded on two sides by windows of the special transmitting glass adjoin the solariums so

that patients may have the benefit of fresh air without the danger of exposure to strong winds.

The fourth floor is devoted to the care of children. There are four operating rooms, two of which have spectators' galleries that are separated from the main operating rooms by sealed glass windows.

### Pennsylvania Occupational Therapy Association Meets

Occupational therapy as applied to cardiac cases, the value of occupation as a definitely curative measure for orthopedic cases and occupational therapy as a re-educative agency in organic nervous diseases were among the subjects discussed at the first institute of the Pennsylvania Occupational Therapy Association. Two sessions were held in the auditorium of the Philadelphia County Medical Society and one session was held in the amphitheater of the Philadelphia General Hospital. Dr. Joseph C. Doane presided at the banquet, which was held at the Sylvania Hotel. All speakers who appeared on the program were specialists in their various lines.

### Chicago Nurse Superintendent Dies of Pneumonia

The death of Caroline H. Soellner, R.N., superintendent of nurses, Roseland Community Hospital, Chicago, added another name to the long list of martyrs in the nursing profession who have given their lives in the discharge of their duty.

Miss Soellner died of pneumonia resulting from influenza.

Miss Soellner made many useful contributions to the nursing world of which she was a member for twenty years, and to which she gave so generously of herself and of her talents. A graduate of Lakeside Hospital, she was for eight years superintendent of Blessing Hospital, Quincy, Ill. Returning to Chicago, she was successively superintendent of nurses at Washington Park and Lakeside Hospitals, instructress of nurses at Michael Reese Hospital, and superintendent of nurses at Roseland Community Hospital.

### Donate New Memorial Building to Lenox Hill Hospital

A memorial building in honor of the late George Ehret, New York brewer, will be erected by Lenox Hill Hospital, New York City, as a result of a gift of \$700,000 made to the hospital by members of his family.

The building is to be a part of the \$6,000,000 building program to enlarge the capacity of the hospital to 600 beds. It will be similar in design to the present private pavilion and will be one of the main wings of the new plant.

## News of the Month

# Midwest Hospital Association Holds Third Annual Meeting

THE Baltimore Hotel, Kansas City, Mo., was the scene of the third annual convention of the Midwest Hospital Association, which opened a two-day meeting on Friday, February 22. Hospital representatives from Missouri, Kansas and Oklahoma, the three states that compose the association, were present in considerable numbers, as well as delegates from Iowa, Nebraska and Colorado, the attendance numbering in all nearly 200. Professional, business and administrative problems of hospital management held places of importance on the program.

The officers elected for the ensuing year were: president, Dr. Fred S. Clinton, superintendent, Oklahoma Hospital, Tulsa, Okla., first vice-president, Dr. J. C. Bunten, Augusta, Kans., second vice-president, Dr. Rush E. Castelaw, superintendent, Wesley Hospital, Kansas City, Mo., secretary, Walter J. Grolton, superintendent, Missouri Pacific Hospital, St. Louis. An amendment was made in the constitution and by-laws of the association to permit the election of a president-elect and Rev. L. M. Riley, superintendent, Wesley Hospital, Wichita, Kans., was elected to that office.

At the dinner of the organization, held in the Baltimore Hotel, Friday evening, the speakers were Dr. Bert W. Caldwell, executive secretary, American Hospital Association, Dr. Frank C. English, secretary-treasurer, American Protestant Hospital Association, and Dr. Frederick H. Slayton, American College of Surgeons, who represented Dr. M. T. MacEachern, director of hospital activities of the college, who is now on the Pacific Coast. The talks given were inspirational and stimulating and dwelt largely on the high ideals that should prevail in all hospital service. It was greatly regretted that Father A. M. Schwitalla, president, Catholic Hospital Association, who was to have addressed the gathering, had been called to the East and was unable to attend.

### *Duty on Surgical Instruments May Be Increased*

At one of the early sessions of the convention Dr. Caldwell brought to the attention of those present the fact that the ways and means committee of the U. S. House of Representatives has under consideration a proposal to increase the duty on imported surgical instruments. If this proposal goes into effect the price of surgical instruments will be increased, and there will be a resultant increase in the cost of hospital operation. At Dr. Caldwell's suggestion, the Midwest Hospital Association sent a telegram to the ways and means committee, protesting against this proposed increase of duty.

Dr. B. A. Wilkes, superintendent, Missouri Baptist Hospital, St. Louis, the president of the association, was in charge of the convention and presided at all sessions. After registration on Friday morning, the meeting was called to order by the president and invocation was by Rev. Joseph E. Brown, Kansas City, Mo. In his presidential address Dr. Wilkes emphasized that the hospital

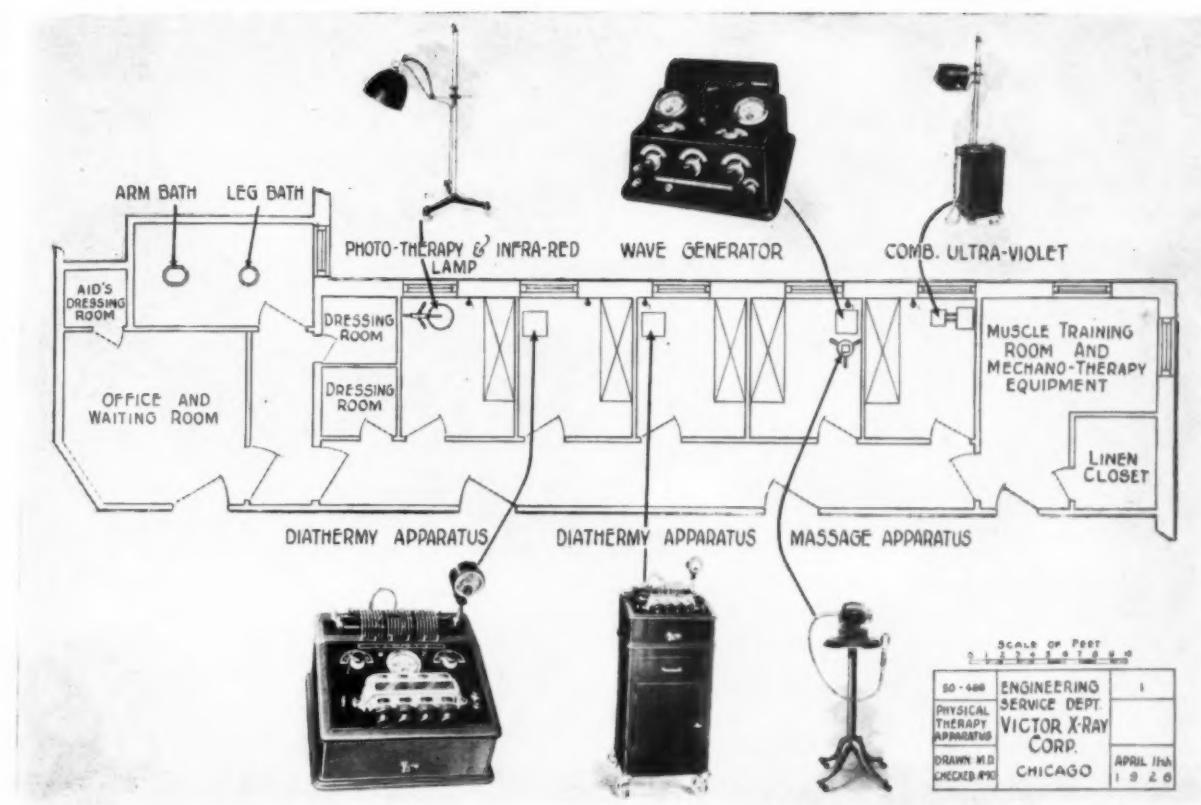
of to-day should give spiritual as well as physical advantages to its patients, by maintaining at all times a kindly, courteous and sympathetic attitude toward them. "Much of the suffering of any hospital patient is in his fear," Dr. Wilkes said, "and the hospital is performing a kind and necessary service in relieving the patient's mind and assuaging the anxiety of his relatives."

The Friday afternoon program was arranged by the Oklahoma section of the association and was devoted to problems relating to the business side of the hospital. Dr. Clinton conducted this program, at Dr. Wilkes' request. The following topics were brought up for consideration: What percentage of the hospital's total gross business should be charity? Do the hospitals, not endowed, undertake more charity than their facilities should permit? Should admitting hours at the business office be restricted? Is it good hospital business to require bills to be paid weekly in advance? How much does the budget system actually help us? Are you collecting your bills in full on compensation cases? Is it practical to have flat rates for hospital service?

### *All Topics Freely Discussed*

Much live discussion followed the presentation of these practical and pressing problems and among those who contributed worth while suggestions toward their solution were: Thomas J. McGinty, superintendent, Oklahoma Baptist Hospital, Muskogee, Okla., Dr. Castelaw, Mrs. Elizabeth E. H. Moore, R.N., superintendent, Shawnee General Hospital, Shawnee, Okla., Dr. Clinton, Dr. Wilkes, Mr. Grolton, Dr. A. J. Weedn, Duncan, Okla., Dr. English, E. Muriel Ancombe, superintendent, Jewish Hospital, St. Louis, J. H. Rucks, superintendent, Wesley Hospital, Oklahoma City, Okla., and Ida Engel, superintendent, Washington County Memorial Hospital, Bartlesville, Okla.

Saturday morning's program was arranged by the Kansas section of the association and was conducted by Dr. J. C. Bunten. It dealt with problems incident to the administrative activities of the hospital. The round table method of discussion was again adopted, the following questions being presented: Should there be any visiting in the maternity department? Who should give out the condition of patients? Should general hospitals care for acute venereal diseases? Should the hospital have a salaried anesthetist and charge for this service? Who should have the final word in questions of discipline in the nursing and intern services? When shall we begin to charge tuition for pupil nurses? Is the time ripe for many of our hospitals to close their training schools? The discussion of these subjects was taken part in by Cora A. Miller, Newman Memorial County Hospital, Emporia, Kans., Dr. Castelaw, Sister Frieda, Bethel Deaconess Hospital, Newton, Kans., Miss Ancombe, Hazel Galbreath, superintendent, Augusta Hospital, Augusta, Kans., Dr. G. W. Jones, Lawrence, Kans., Rev. L. M. Riley, Mr. McGinty, Dr. T. R. Heath, superintendent, Bethany



This is a typical floor plan submitted as a suggested layout for the Physical Therapy Department of a medium-size hospital, and supplements a list of specifications and other de-

tailed information and suggestions helpful to the hospital superintendent, building committee and architect. Layouts for an X-ray Department are handled in a similar manner.

## Victor Hospital Service Bureau

THAT the Victor Hospital Service Bureau has filled a real need is very evident by the expressions of appreciation received from hospital officials in all parts of the country.

The reason is simple enough. They have profited by the experience of the Victor organization, accrued over the period of a third of a century in the design, manufacture and installation of X-ray and physical therapeutic apparatus. Hospital superintendents and building committees have found the suggestions of Victor engineers a great help in the planning of an X-ray or Physical Therapy Department, because the suggestions were based on a thorough knowledge of all the factors that enter into this highly specialized field.

True economy in the building and equipping of a hospital is not determined by the lowest costs, but by the quality of the service which such equipment renders to

the members of the staff and patients. That is the keynote of the Victor Hospital Service Bureau. It assures the institution the greatest amount of satisfaction in end results, for every dollar invested.

A survey of your X-ray or Physical Therapy Department needs by the Victor Hospital Service Bureau will help your institution as it has helped many others. It will point out the most practical and economical solution to each problem; as to type of equipment best suited for the particular type of service your institution is rendering, and the manner of installation of such equipment according to the space available.

Such a survey includes a detailed and comprehensive floor plan, so that the suggestions submitted may be visualized. Every detail is provided for in advance and when the installation is made accordingly, the department may function to advantage right from the start.

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A GENERAL ELECTRIC



ORGANIZATION

## News of the Month

Methodist Hospital, Kansas City, Kans., Dena Gronewald, superintendent, Newton Memorial Hospital, Winfield, Kans., and Mrs. N. E. Flowers, superintendent, Axtell Christian Hospital, Newton, Kans.

Following the round table a paper entitled "How Can the Hospital Properly Advertise?" was given by Matthew O. Foley, editor, *Hospital Management*, Chicago. Mr. Foley pointed out the need for educating the community regarding hospital service, for keeping the people ever informed about the hospital's activities and for bringing to them a realization of their everyday relation to the hospital, these things to be achieved by various forms of ethical publicity.

The session was concluded by a paper on "What Information Should Be Given to the Newspapers by the Hospital Business Office" prepared by John A. McNamara, executive editor, *THE MODERN HOSPITAL*, Chicago, and read in his absence by Janet Peterkin, assistant editor, *THE MODERN HOSPITAL*. Mr. McNamara stressed the fact that superintendents should give newspaper men correct and full information regarding cases of interest to the public, to obviate the harmful publicity that so often follows an attempt to cover up facts and withhold news.

Saturday afternoon's session was given over to a discussion of the professional branches of the hospital's work, with the Missouri hospital executives speaking, under the leadership of J. R. Smiley, superintendent, St. Luke's Hospital, Kansas City, Mo. Among the outstanding contributions at this time were Miss Anscombe's paper on "Are We Graduating Too Many Nurses?" which aroused vigorous discussion; the talk of Dr. L. H. Burlingham, superintendent, Barnes Hospital, St. Louis, president of the American Hospital Association, who spoke on the question of the superintendent's attendance at board meetings, and the discussion of diagnostic methods presented by Dr. Frank Hall, pathologist, Kansas City, Mo. Other questions discussed were: What constitutes a complete case record in a small nonteaching hospital? Should the staff have representation on the board? Are you doing anything in postmortem teaching and investigation? How can the problem of case histories, physical examinations and other like work be met in hospitals in which no interns are employed?

At the close of this session the meeting was adjourned. Next year's convention will take place at Tulsa, Okla.

An added attraction for hospital heads in connection with the convention was a large exhibit of the latest hospital equipment and supplies.

### Use New Nurses' Home as Temporary Hospital

Dedication exercises were held on February 3, for the new nurses' home building of Christ Hospital, Cincinnati. This is the first building to be erected under the building program for which \$1,500,000 was raised in a public campaign in 1927.

The new nurses' home will be used as a temporary hospital of 200 beds, as the old hospital building has been vacated in contemplation of its wrecking and the erection of a new main hospital building. The new home, in addi-

tion to the hospital facilities, will contain dormitory facilities for thirty nurses, all members of the Christ Hospital School of Nursing. The other nurses will remain in the old home until the new building is no longer needed as a hospital. The part of the old building that was not razed is now being used for laboratories, operating rooms and other departments.

### Miss Hall Honored on Retirement From Hospital Field

After completing her twenty-fifth year as superintendent of the Seattle General Hospital, Seattle, Wash., Evelyn H. Hall has retired to private life. On her retirement from the active management of the institution she became superintendent emeritus of both the hospital and the training school for nurses.

Prior to going to Seattle, Miss Hall was superintendent of the nurse training school at the Methodist Episcopal Hospital, Brooklyn, N. Y., for four years. When she arrived on the West coast to take up her new duties she found a small hospital with but a few graduate nurses and less than fifteen students. The institution now has a staff of 100 attendants and seventy-five student nurses.

Miss Hall's activities, however, were not wholly within the walls of the hospital. She has been an active member of the American Hospital Association, the National League of Nursing Education, the Washington League of Nurses' Education and the King County Graduate Nurses' Association.

Her successor, Dr. Luther G. Reynolds, was superintendent of the Methodist Hospital of Southern California, Los Angeles, Calif.

### Yale School of Nursing Receives \$1,000,000 Gift

The Yale School of Nursing has received a gift of \$1,000,000 for endowment from the Rockefeller Foundation, according to an announcement made by President James Rowland Angell, Yale University.

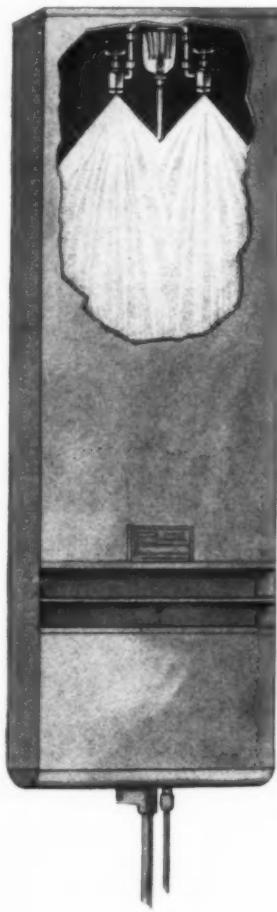
"Coming as it does at the end of a five-year trial period," President Angell said in making the announcement, "this gift is of great significance. It means that a novel experiment has proved a success, and an educational program for nurses, comparable to that offered in medicine, law and engineering, is placed on a stable and permanent basis. It means further that nursing is now recognized to be of sufficient importance to warrant the existence of a school organized from the point of view of educating the nurse rather than primarily for the purpose of providing a hospital with nursing service."

Among the features of the plan which has thus received the endorsement of the Rockefeller Foundation, an outstanding authority in the field of medicine and education, are the high admission requirements, a curriculum that emphasizes a thorough study of fundamental as well as practical training, the payment of a substantial tuition fee by the student and the furnishing of maintenance by the hospital during the period of service in the wards.

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ZEPHYR Washed Air Systems maintain an invigorating atmosphere free from all odors or gases soluble in water.

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## News of the Month

**MARY F. UNDERWOOD, R.N.**, for five years assistant superintendent of the Chenango Memorial Hospital, Norwich, N. Y., was appointed superintendent of that institution, following the resignation of **FRANCES HIGGINS**.

**DR. ROBERT E. SCHWARTZ**, superintendent at Koch Hospital, St. Louis, Mo., for the last two years, has resigned.

**CAROLINE VERMILYE, R.N.**, has resigned her position as superintendent of the San Antonio Community Hospital, Upland, Calif., and has accepted the superintendency of the new Redlands Community Hospital, Redlands, Calif. The Redlands Hospital was opened March 1.

**MAY WHITLOW** was elected superintendent of the Griffin Hospital, Griffin, Ga., at a recent meeting of the board of trustees. The office was last held by **MRS. LAVENDER WOOD**.

**DR. HENRY R. SMITH**, for many years a practicing physician in Edmonton, Alberta, Can., and for the last eight years superintendent of the Royal Alexandria Hospital, Edmonton, died after a short illness.

**AGNES P. McGINLEY**, formerly superintendent of the Athens Hospital, Athens, Ga., was recently appointed superintendent of the Community Hospital, Wauseon, Ohio.

**MARY J. BANDY** was recently appointed superintendent of the new Clay County Hospital, Brazil, Ind.

**MARTHA GARBER** has accepted the appointment as superintendent of the Bluffton Community Hospital, Bluffton, Ohio, succeeding **LYDIA DEERHAK**, resigned.

**MRS. MARGARET J. PARKER** has resigned her position as superintendent of the Municipal Hospital, Scranton, Pa., and **HARRIET R. ANDERSON** has been appointed to fill the vacancy.

**GENEVIEVE CLIFFORD** resigned her position as superintendent of the Syracuse Memorial Hospital, Syracuse, N. Y., and has accepted a similar position at the new Communicable Disease Hospital in that city.

**DR. ROBERT P. HARRIS** has been elected to succeed **DR. G. K. MASON** as superintendent of the Pulaski County Hospital, Little Rock, Ark.

**VALETTA KETTERING** has been appointed superintendent of the Christian Welfare Hospital, East St. Louis, Ill., succeeding **CHARLOTTE GARRISON** who is in charge of the Decatur and Macon County Hospital, Decatur, Ill.

**MARLETTA NEWELL** has been engaged as superintendent of the new Stephen B. Van Duzee Hospital, Gouverneur, N. Y.

**DR. E. E. SHIFFERSTINE** holds the position of superintendent and chief surgeon of the State Hospital of Coaldale, Coaldale, Pa. No change has been made, as was erroneously stated in the February issue of **THE MODERN HOSPITAL**, and no change is contemplated.

**DR. J. ERNEST FOX** recently accepted the appointment as superintendent of the Central State Hospital, Lakeland, Ky., to fill the vacancy created by the death of **DR. W. W. DURHAM**.

**W. L. BORK** has resigned his position as superintendent of the Hamilton County Hospital, Chattanooga, Tenn., and **DR. J. B. SWAFFORD** has been appointed to fill the vacancy. **DOCTOR SWAFFORD** was formerly associated with the Eastern State Hospital, Bearden, Tenn.

**ATTA ALBERTSON**, formerly instructress of nurses at Bloomsburg Hospital, Bloomsburg, Pa., has been appointed superintendent of that institution, succeeding **MARION SMITH**, resigned.

**LOUIS ROTH**, assistant superintendent of the Bronx Hospital, Bronx, N. Y., has been elected superintendent of the Barnert Memorial Hospital, Paterson, N. J., to succeed **DR. LOUIS HOLLANDER**.

**LOUISE BUHRER** has been appointed superintendent of the Barrett Hospital, Dillon, Mont., following the resignation of **MARY E. GOODE**.

**ELLEN M. SELBY** has resigned her position as superintendent of the Memorial Hospital at Pawtucket, R. I. Her successor has not as yet been named.

**DR. GEORGE T. CALDWELL**, formerly professor of pathology at Baylor University, Dallas, Tex., has received the appointment as pathologist and laboratory director at the Charles T. Miller Hospital, Inc., St. Paul, Minn., and will also be associated with **DR. E. T. BELL** as instructor in the department of pathology at the University of Minnesota.

**DR. RANSOM H. SARTWELL**, superintendent, State Hospital for Mental Diseases, Howard, R. I., died on January 11.

**MISSOURIA F. MARTIN, R.N.**, formerly superintendent of the Muncie Home Hospital, Muncie, Ind., has been engaged as superintendent of the Women's Southern Homopathic Hospital, Philadelphia, to succeed **MRS. LOU SMITH**.

**HELEN J. BURNS** recently resigned her position as superintendent of the Jordan Hospital, Plymouth, Mass., and **ALICE EDGAR** is acting as temporary superintendent.

**DR. HOWARD S. ARONSON** has accepted the appointment as superintendent of the Emergency Hospital, Dallas, Texas, to succeed **DR. E. G. LYON** who has entered the public health field.

**MARY M. ORMISTON** has given up the superintendency of the Elliot Hospital, Manchester, N. H., because of ill health and her successor is **HAZEL E. FULLER**, formerly assistant superintendent of that institution.

**DR. HENRY E. AUSTIN**, formerly associated with the East Mississippi Insane Hospital, Meridian, Miss., is now the chief medical officer at the United States Veterans' Bureau Hospital, Philadelphia.

**DR. WILLIAM SCHROEDER, JR.**, chief surgeon, Harbor Hospital, Brooklyn, N. Y., has been appointed as the head of the department of hospitals of that city. This department was recently created to manage the twenty-six municipally owned hospitals which have formerly been under the jurisdiction of the health department and public welfare department.

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Baltimore Chicago Boston Cincinnati Pittsburgh  
Buffalo Detroit New York Philadelphia St. Louis

Pacific Coast General Office and Warehouse, Los Angeles

Operating Branch Sales and Display Rooms,  
San Francisco, Tacoma, Portland

## News of the Month

### \$600,000 Hospital and Medical Building for San Antonio

A site has been purchased in San Antonio, Tex., adjacent to the Medical Arts Building, on which will be built a \$600,000 hospital and medical office building. The new structure will be similar in design and usage to the Medical Arts Building. The site includes a twenty-foot strip on the rear which gives the new project a frontage on another street. Here will be built a one-story structure with a ramp running down to the basement elevator of the hospital.

The hospital is to be of 150-bed capacity occupying the upper seven stories of the fourteen-story structure, and will have administrative offices on the first floor. The other six floors will be devoted to office space for medical men. Eighty-five per cent of the office space has already been applied for.

### Fort Worth Has New Hospital for Women

With the opening of the new W. I. Cook Memorial Hospital, Fort Worth, Texas, the administering of proper medical care to working girls and women without funds or with only limited means, as well as to those who are financially able to pay, is made possible. The building, donated by Mrs. W. I. Cook, is a three-story structure and is equipped with the latest models in electrocardiographic, fluoroscopic and ultraviolet ray machines.

The interior of the building is finished in soft, light colors and the corridor and bedroom floors are of rubber. A colored light signal system has been installed, radiators are placed in the walls behind grills and each room is equipped with telephone and radio service. The waiting rooms are luxuriously furnished with overstuffed chairs and carved benches and tables, with portraits of the Cook family on the walls. The patients' rooms are comfortably furnished so that a homelike atmosphere prevails.

The remainder of the \$1,200,000 donation that was not used in constructing and equipping the new institution is to be used as an endowment fund.

The bathrooms of the new building are finished in colored tile. The walls of the x-ray rooms are treated with a special plaster of barium sulphate and the wiring of the machines is covered with a specially prepared heavy mica insulation.

### Newark Memorial Hospital to Be Reconstructed

Funds are being raised for the complete reconstruction of the Newark Memorial Hospital, Newark, N. J., which is to be developed as a thoroughly modern hospital containing 200 beds for private, semiprivate and ward patients. The hospital will be rebuilt on its present site. Dr. S. S. Goldwater, consultant, is collaborating in this work with Guilbert and Betelle, architects.

### New Medical Office Building Near Washington University

An eight-story building costing \$425,000 to contain offices for physicians and dentists exclusively is being promoted in St. Louis. The site for the building is near the Washington University School of Medicine, and it is felt by the promoters that it will fill a long felt want for medical office space near the medical school and the nearby hospitals. Many physicians on the staffs of the hospitals and from the medical school are expected to locate their offices in the new building.

The building will be fireproof, with a marble and bronze lobby and two high-speed elevators. Each floor will be partitioned to suit the requirements of occupants. Louver doors, ventilating windows, special electric facilities, plumbing fixtures and valves, annunciator systems, gas, compressed air, suction and x-ray outlets, x-ray developing tanks and iced drinking water are to be provided.

It is planned to use rubber tiling in waiting rooms and passageways of the suites, and vitreous tile for floors and walls of laboratories and operating rooms. There will be installed a water softener and air tanks. On the roof will be a garden with cafe service and on the main floor will be five stores, one of which is to be reserved for a drug store and one for a popular priced cafe.

Work is to be started on the new building by May 1.

### President of Boston Beth Israel Hospital Is Honored

A noteworthy event in the annals of Boston's Jewry was the testimonial dinner given to Albert A. Ginzberg, president, Beth Israel Hospital, Boston, at the Hotel Statler, December 16. The affair was planned in grateful acknowledgment of Mr. Ginzberg's leadership in making possible the new Beth Israel Hospital which stands out as the largest communal enterprise in the history of the Jews of Boston.

### Patients of Moderate Means Provided for in Boston

A proposed eleven-story building that will eventually house 300 patients at the Massachusetts General Hospital, Boston, is described in a late issue of the *Bulletin of the American Hospital Association*. The uppermost floor, according to the report, will be used for operating and delivery rooms. Offices and the x-ray department will be located on the first floor, and the second floor will be reserved for laboratories. In the basement will be the kitchens, dining rooms and store rooms.

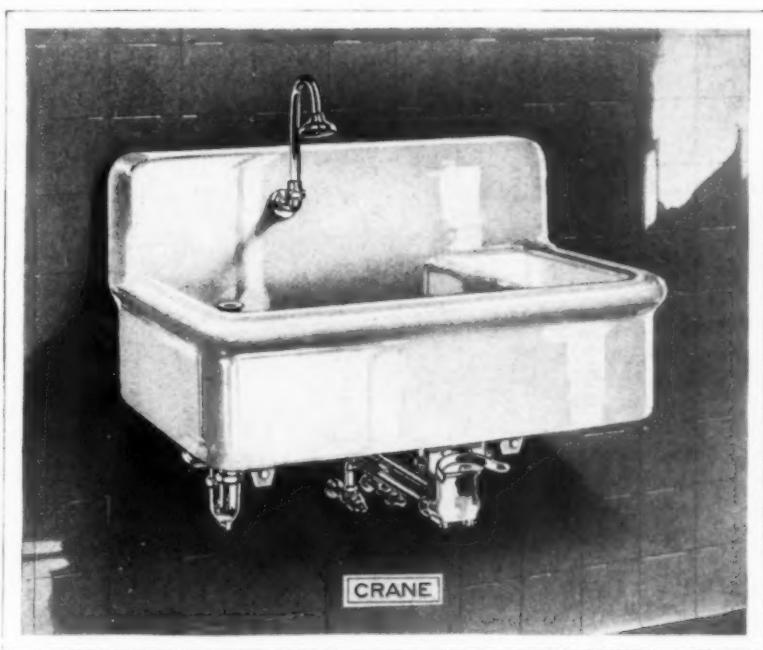
This is meant to be a hospital for patients of moderate means, so that every effort will be made to keep the rates at a moderate level. When the building first opens it is planned to house the nurses in it, and as the demand for additional beds for patients grows they will move to other quarters. Estimates place the total cost of the building and equipment at about \$1,800,000.

150 Pounds Pressure



CRANE VALVES

2500 Pounds Pressure



Crane white solid porcelain roll rim all service sink with integral back and drainboard, painted white enamel semi-concealed brackets, gooseneck spout with spray, and knee action supply valves.

## Economy need in no way endanger sanitation

Crane Co. well understands the necessity for economy which most hospital building committees face. It, too, knows the results of the shortsighted policy which lavishes equipment on one department at the expense of another.

But how much economy will sanitation stand? Would a hospital by saving here defeat its own purpose? Certainly by purchasing cheaper and inferior materials it not only lowers its efficiency, but makes an experiment which over a period of time will demonstrate its costliness by increasing maintenance and hamstringing the budget with expensive repairs and replacements.

In conjunction with hospital committees throughout the country, Crane engineers have studied this problem. They are prepared to offer a solution for it . . . to lower the cost of plumbing and heating systems without endangering convenience, comfort, or sanitation.

These engineers have developed such a complete line of materials; designed each unit with such nicety, manufactured each with such precision that a substantial economy can be made in installation time and labor. Thus Crane accuracy balances economy in its truest meaning. While Crane quality, through the years, assists the hospital in keeping down maintenance.

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## News of the Month

### University of Chicago Clinics Get \$500,000 in Gifts

Gifts approximating \$500,000 have been made to the clinics of the University of Chicago by Max Epstein, Albert D. Lasker and the Julius Rosenwald Fund.

Mr. Epstein's gift supplements his previous gifts of \$200,000 for the Max Epstein clinic for out-patients at the university and \$100,000 to extend this clinic to the new Chicago Lying-In Hospital. Mr. Lasker has previously given \$1,000,000 to the university for the creation of the Lasker foundation for medical research, which is engaged in the study of the degenerative diseases of middle age.

The University of Chicago clinics, which include the Albert Merritt Billings Memorial Hospital and the Max Epstein Clinic, were opened to the public on October 2, 1927. Enlargements will soon be made by the addition of the new Bobs Roberts Memorial Hospital for Children, the gift of Col. and Mrs. John Roberts; a new hospital for crippled children provided by Mrs. Gertrude Dunn Hicks and Mrs. Nacy A. McElwee, to be operated in co-operation with the Home for Destitute Crippled Children and by the addition of the new Chicago Lying-In Hospital. Construction of these three hospitals will begin in early spring, it is announced.

### Red Cross Opens Four Outpost Hospitals in Year

The Ontario division of the Canadian Red Cross has opened four new outpost hospitals during the past year, according to a report in the *Hospital, Medical and Nursing World*. There are now twenty-three such institutions in the province. During the past year they served more than 6,000 patients.

### Open New Wing at Harmarville Convalescent Home

The new Farmington wing of the Harmarville Convalescent Home, which has been under construction since last June, was opened on February 1 for convalescent mothers and babies. There are twenty beds for mothers and the same number for babies. A dormitory for six convalescent children up to three years of age was also opened on that date. The opening of this new wing raises the capacity of the institution to sixty-nine beds.

### To Construct New Main Building at Kings County Hospital

Plans for a new main building at Kings County Hospital, Brooklyn, N. Y., which were filed recently provide for a ten-story structure of brick, with stone trimming, to be erected at a cost of \$6,000,000, and to provide 1,500 beds. This will be built between the nurses' home and the west wing of the old building, which are to remain

standing. The present main building will remain in service until the new one is ready for occupancy. Thus, when the new wing is completed, the entire hospital will have a capacity of 2,000 beds.

### Round Tables Popular at Methodist Convention

The eleventh annual convention of the National Methodist Hospitals and Homes Association was held at the Congress Hotel, Chicago, February 6 and 7, following the annual meeting of the Methodist Deaconess Association, which was held on February 5 in the same hotel. The outstanding feature of the convention was the annual banquet which was held on Wednesday evening.

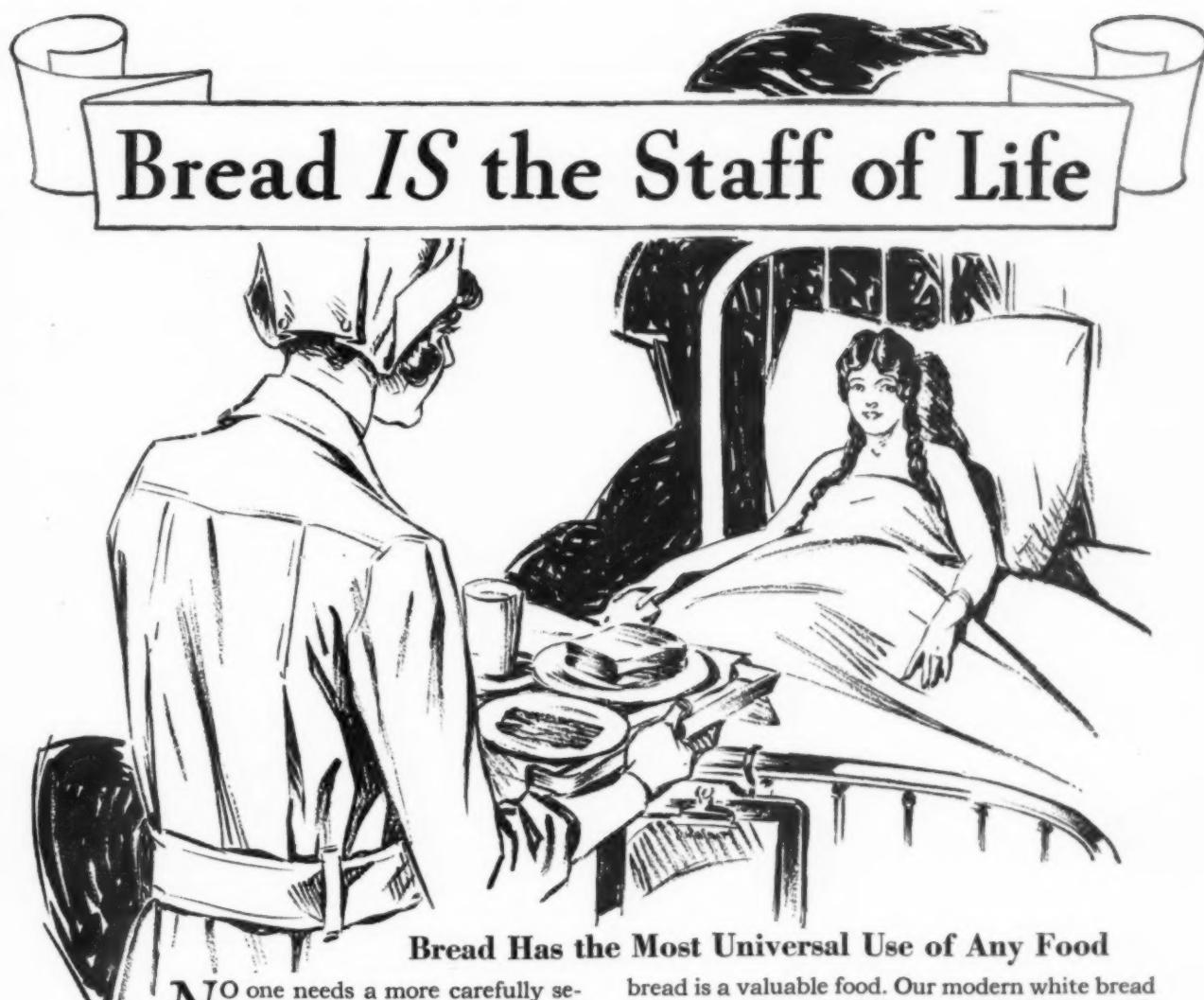
The meetings were all presided over by Dr. G. T. Notson, Sioux City, Iowa, president of the association, and devotions were led by Dr. J. A. Diekmann, Cincinnati. The first session opened on Wednesday morning with the annual address of the president, the report of the secretary by Guy M. Hanner, Colorado Springs, Colo., and the report of the treasurer by the Rev. Bascom Robbins, Kansas City, Kan. Following his report Mr. Hanner read the "Daily Prayer for Hospital Workers," which was published in the January issue of *THE MODERN HOSPITAL*. After the reports had been read a business session was held and Bishop Edwin H. Hughes, Chicago, addressed the assembly on "The Dominant Philanthropic Motive." At noon the meeting was adjourned and the various groups and committees gathered for luncheon. The annual luncheon of the Methodist Deaconess Association was held at this time.

The Wednesday afternoon session was divided into four groups—the hospital group, the homes for children group, the homes for aged group and the deaconess work group, each of which held a round table discussion. The first of these was led by Dr. C. S. Woods, Cleveland; the second by Dr. Samuel W. Robinson, Chicago; the third by C. Lloyd Strecker, Cincinnati, and the fourth by Mrs. Luella M. Evelsizer, Cleveland.

Following the adjournment of the afternoon session the guests were allowed an hour in which to prepare for the annual banquet of the association. Doctor Notson presided at the speakers' table, and Bishop Edgar Blake, Indianapolis, was the speaker of the evening. A general meeting was held in the assembly hall after the banquet. Here Dr. Warren F. Cook, Brooklyn, N. Y., delivered an address on "The Healing Ministry." Other speakers at this session were Dr. John Grant Shick, Blair, Neb., who gave an address, "Our Obligation to the Aged," Francis Knight, Detroit, who spoke on "Our Responsibility to the Homeless Child," and Alice P. Thatcher, Cincinnati, who talked on "The Deaconess and the Church."

The fourth session opened with a number of groups meeting for round table discussions. The conveners here were those who had conducted the Wednesday afternoon discussions. Luncheon was held for the various groups and committees.

The closing session of the convention was a business meeting at which the findings of the various groups were discussed prior to the closing exercises.



### Bread Has the Most Universal Use of Any Food

No one needs a more carefully selected choice of nutritious and healthful foods than the young mother. The fact that bread is almost always included in a nursing mother's diet is proof of its value.

The flour, milk, yeast and other ingredients of bread supply heat, energy and minerals in easily digestible form.

Bread is an important part of every balanced diet, along with meat, fish, fruit, vegetables, cereals and dairy and poultry products, for young and old. Bread and milk, bread and meat sandwiches, bread and butter and many other combinations make bread the greatest "carrier" of these other necessary items of the diet.

All the extensive scientific experiments have, according to our interpretation, proved that

### Bread is the Great Carrier of Other Foods

To aid physicians, dietitians, nurses and dentists in their effort to correct the fallacious food theories spread by food faddists, "The Facts About Bread and Its Rightful Place in the Diet" has been published. This little booklet gives the opinions of the leading nutritional authorities and will prove valuable to anyone interested in the subject of diet. Send for it today.

bread is a valuable food. Our modern white bread supplies energy building carbohydrates and, made with milk and yeast and other ingredients, proteins of high quality. It furnishes many of the necessary minerals, and some of the vitamins. And moreover, white bread is one of our most digestible foods, its food contents being quickly and easily absorbed by the body. *The purpose of this statement is to present scientific facts to offset misleading statements by food fakers. This statement has been submitted to and approved by a group of disinterested and competent investigators in the field of nutrition, selected by the editor of The Journal of the American Medical Association. These investigators include Professors GRAHAM LUSK, E. V. McCOLLUM, and LAFAYETTE B. MENDEL. (For complete information on nutrition see books written by these authorities.*

*Send for "Facts About Bread"*



## LEARN FACTS ABOUT BREAD

*This advertisement and the booklet "The Facts About Bread and Its Rightful Place in the Diet" are published in the interest of broadcasting authoritative information about bread by Washburn Crosby Company, millers of Gold Medal Flour*

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## News of the Month

### Large Masonic Hospital Planned in Tulsa

Announcement of a \$1,000,000 hospital for Tulsa, Okla., to be built on the site of the old Oklahoma Hospital by individual members of the Masonic Lodge, was made recently. Building plans for the twelve story structure are nearly completed and work is to be started within a few weeks. Completion of the structure is promised within a year after the date that work is started.

Plans for the building call for a modernistic type of architecture, and facilities provided will be the most modern and up-to-date available. Windows of the rooms will be so arranged that direct rays of the sun will enter every room at some time during the day. The modern set-back construction with glass windows extending over the upper edge of the set-back, giving a skylight effect, is provided in the plans. An advantage of this plan in building a hospital is that where the set-backs occur a sun terrace, an ideal place for a solarium, is formed.

Flower gardens will be cultivated between the wings of the building and a roof garden will be provided where the patients may lounge about or engage in some sort of mild exercise. Concrete walks and pools are included in the general plan of landscaping.

The building will be provided with a central heating plant and a mechanical ventilating system. Kitchens and baths will be installed on every floor and each room will be provided with a private lavatory.

### Jersey Association Holds Round Table Conference

A round table conference of the New Jersey Hospital Association was held at the Newark Beth Israel Hospital, Newark, February 1. The conference itself took place in the afternoon, the morning being given over to the inspection of the new Beth Israel Hospital. Members of the association attending the conference were also guests of the hospital for luncheon.

The first subject to be discussed concerned the fifth year of medical education and was presented by Dr. Charles B. Kelley, secretary, New Jersey State Board of Medical Examiners. The response to Doctor Kelley's discourse was given by Dr. Francis R. Haussling, member of the staff, Newark City Hospital.

The centralized school of nursing was discussed by Dr. Joseph C. Doane, medical director, Jewish Hospital, Philadelphia. Adelaide L. Boldbeck, R.N., director and principal, Newark Beth Israel School of Nursing, and Grace Watson, R.N., director of education, Jersey City Hospital, also spoke on the same subject in reply to Doctor Doane's presentation of the subject.

One of the most interesting topics for discussion during the session dealt with psychopathic service in general hospitals, and the affiliation of nursing service in psychopathic hospitals. The main speaker on this subject was Dr. Henry A. Cotton, medical director, New Jersey State Hospital, Trenton. Others to present other phases of the same subject were Dr. Arthur P. Hasking, psychi-

atrist, Jersey City Hospital, Jersey City, Anne How, R.N., superintendent of nurses, New Jersey State Hospital, Greystone Park, and Dr. Guy Payne, medical director, Essex County Hospital for the Insane, Cedar Grove.

### Pennsylvania Program Offers Diversity of Features

Plans for the yearly meeting of the Hospital Association of Pennsylvania are nearing completion, and a program that promises to bring something of interest and value to every person present has been arranged. John M. Smith, director, Hahnemann Hospital, Philadelphia, is chairman of the program committee.

The meeting is to be held at the Bellevue-Stratford Hotel, Philadelphia, March 12 to 14.

The first-day session will be opened by the Rev. Floyd W. Tomkins, rector, Church of the Holy Trinity, who will give the invocation. Among the speakers who have accepted a place on the program are: Dr. Joseph B. Howland, superintendent, Peter Bent Brigham Hospital, Boston; Philip H. Gadsden, president, Philadelphia Chamber of Commerce; Daniel D. Test, superintendent, Pennsylvania Hospital, Philadelphia; the Hon. William J. Ellis, commissioner, Institutions and Agencies for New Jersey; Dr. Joseph R. Morris, president, New Jersey Hospital Association.

Katherine A. Pritchett, consultant, administrative nutrition, Department of Welfare, Harrisburg, is to give an address on "Food Administration."

Dr. Joseph C. Doane, medical director, Jewish Hospital, Philadelphia, is to conduct a round table at which will be discussed problems of hospitals having more than eighty beds. Missouria F. Martin, R.N., superintendent, Woman's Southern Homeopathic Hospital, Philadelphia, will lead the round table discussion on those problems confronting hospitals having less than eighty beds.

S. Lillian Clayton, R.N., director of nursing, Philadelphia General Hospital, has been named chairman of the nursing section.

Dr. May Ayres Burgess, director of study, Committee on the Grading of Nursing Schools, is to give an address.

S. Frank Roach superintendent of the laundry, Jersey City Hospital, Jersey City, N. J., will speak on "Hospital Laundry Management."

The annual informal dinner promises diversion from the business of seriously threshing out hospital problems. The matter of entertaining the delegates has not been neglected by those in charge of the program, and a number of features will help to make the 1929 program of the Hospital Association of Pennsylvania outstanding in interest and helpfulness.

Officers of the association are: Dr. E. E. Shifferstine, State Hospital, Coaldale, president; Elizabeth H. Shaw, St. Margaret Memorial Hospital, Pittsburgh, president-elect; George W. Sherer, Allentown Hospital Association, Allentown, and Sister Mary Bernard, Mercy Hospital, Wilkes-Barre, vice-presidents; Elmer E. Matthews, Wilkes-Barre General Hospital, Wilkes-Barre, treasurer; Howard E. Bishop, Robert Packer Hospital, Sayre, executive secretary.

ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL

# A significant letter about paper towels

*from the purchasing agent of The  
People's Motorbus Co. of St. Louis*

ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL ONLIWON PAPER TOWEL

"DURING the past four years we have tested other towels," writes G. W. Wolf, of the People's Motorbus Co., "but we have always found it advisable to continue with Onliwon.

"For this period we have used Onliwon Towels and toilet paper in all of our five garages and offices. We have been most impressed by your high standard and the continued uniformity you maintain, coupled with reasonable prices."

The experience of this St. Louis purchasing agent is typical in every field.

*The reason—The Onliwon balanced formula*

A. P. W. Onliwon Towels are a remarkable development for economy. Here, at last, is a paper fabric made scientifically to combine both absorbency and strength—during actual use.

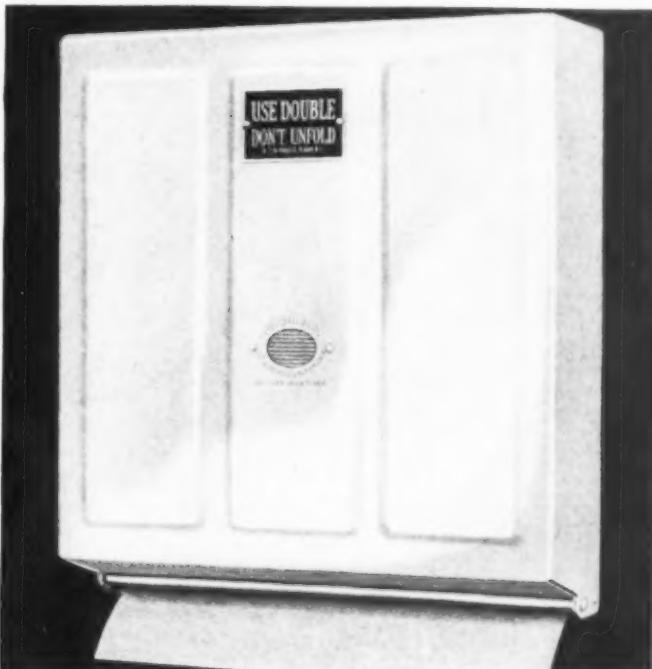
We ask you to test this remarkable texture in your own washroom. The long, soft Onliwon fibres are specially laid to hold together when damp. One Onliwon Towel wipes the hands *dry*.

And Onliwon Towels are dispensed twice folded. In the hands of the user, drying speed is doubled; and the hands will not break through these two tough layers.

*Striking economies with the Onliwon System*

"We used over 50% more of the competing brand and our employees prefer the softer Onliwon," says the buyer for a large manufacturing plant. "Costs 80% less than cloth towels," volunteers a prominent building manager. "The cost per pupil per year under the Onliwon system was just .039¢," says a school superintendent. Let us send you actual comparisons.

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**ONLIWON**  
TOILET PAPER AND  
PAPER TOWEL SERVICE



Onliwon towel cabinet, pressed steel finished in white enamel. Lock to prevent waste and theft. Window to show when refilling is needed. Also furnished in green.

*More drying power per case*

A case of Onliwon Towels contains up to 21% more drying surface than other brands. They are constructed to do their job efficiently. With standard Onliwon cabinets they can keep your towel costs to the absolute minimum.

Industrial organizations, hotels, hospitals, schools and public buildings have furnished us facts on towel costs we believe would interest you. Just mail the coupon for further data as applied to your special problem.

*Fill out this coupon*

A. P. W. PAPER CO., Albany, N. Y.

We are interested in saving money. Without obligation, send us your story of Onliwon economy.

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## OUT-PATIENT SERVICE

Conducted by MICHAEL M. DAVIS, Ph.D., Executive Secretary, Committee on Dispensary Development, United Hospital Fund of New York, 151 Fifth Avenue; New York  
 A. K. HAYWOOD M.D., Superintendent, Montreal General Hospital, Montreal, Que

# How the Out-Patient Department of Johns Hopkins Functions

By CHARLES C. HEDGES, M.D.

Assistant Director, Johns Hopkins Hospital, Baltimore

BETWEEN 800 and 900 patients are treated daily at the out-patient department of Johns Hopkins Hospital. The department, together with the medical and surgical laboratories and the surgical operating rooms, is housed in a new building made possible by a gift from the Carnegie Corporation. The building is designed to facilitate teaching as well as service to patients.

It extends across the north ends of the present ward units and will be connected on the first five floors at least with the proposed medical and surgical clinics for inpatients. The connecting bridges will be thirty feet long. This arrangement was planned to interrelate as closely as possible the in-patient, out-patient, laboratory, operating rooms and ward units. The physical proximity of these departments conserves the time of both teachers and students. A year's operation of the new building has demonstrated that it is well adapted to its purpose.

The quarters assigned to the out-patient department are sufficiently ample to permit all of its divisions to operate at the same time. This facilitates consultations and pro-

vides for a further expansion of service. Thus the morning hours might be limited to the acutely ill cases and the afternoon hours to the chronic class, or vice versa, or acute and chronic cases might be received at any time.

The Carnegie Corporation gave \$2,000,000 for this building. Of this amount, \$1,100,000 was to be used for the construction and \$900,000 set aside as an endowment, the income to be used for the operation and upkeep of the building. The actual cost, however, was \$1,250,000.

The new building is constructed of red brick trimmed with Indiana limestone. It has nine floors, a basement and a sub-basement. The sub-basement contains the heating pipes, water mains, electric cables, pumps and switchboards. These are connected by tunnel with the main heating and power plants in the hospital. The central record room, locker rooms, pharmacy stores, rooms for massage and baking, and the gymnasium and brace shop for the orthopedic clinic are in the basement.

On the first floor are the receiving room, the admitting offices and the supply room. Here also are the offices of



*The new out-patient department, Johns Hopkins Hospital, Baltimore.*



(right) Steeltex saved time, labor, materials, and money in construction of the floors and roofs of six large buildings at the Mayview Hospital, Mayview, Pa. Approximately one-quarter of a million feet of Steeltex were required.

(left) Steeltex for Floors was used in this addition to the McKeesport Hospital, McKeesport, Pa. Steeltex eliminates the use of forms, saves materials through preventing droppings, ensures proper curing and speeds up construction.



# New economical concrete floor method already widely accepted

Steeltex combines steel reinforcing and concrete forms. It is quickly stretched in place over all types of beams. Cut from rolls to any desired length, it ensures ease and speed of application. The illustration shows it being laid in a steel frame house. It is used with any type of steel or wooden joist or beam.



The backing of Steeltex is of ample strength not only to support concrete while being poured, but also to afford safe walking surface once the fabric has been attached to the joists.

To build stronger and better concrete floors for less money was the purpose for which STEELTEX for Floors was introduced to the building field a year ago.

Today hundreds of successful installations in apartments, hotels, schools, churches, hospitals, theatres, and office buildings indicate its widespread acceptance.

Leading engineers, architects, and contractors everywhere employ STEELTEX for Floors, and a few of the many types of construction using it are illustrated here.

Let us send you complete information about this time-and-labor-saving material. The coupon brings our free book, STEELTEX for Floors.

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for plaster . . . for stucco . . . for floors and roofs  
(concrete and gypsum) for stone or brick facing.

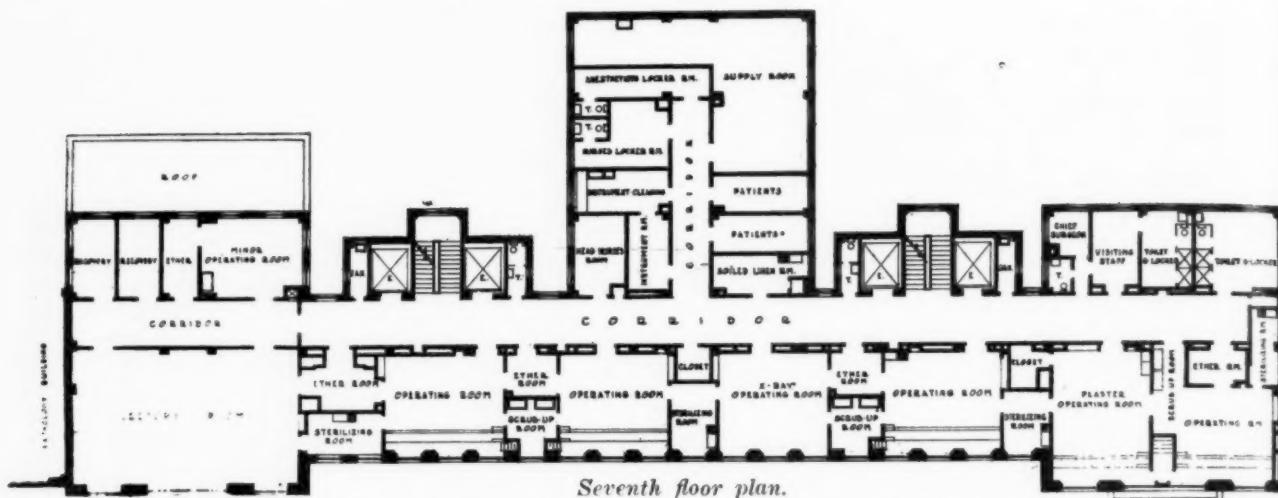
National Steel Fabric Company  
3803 Union Trust Building, Pittsburgh, Pa.  
Send, without obligation, your book, "STEELTEX  
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*Seventh floor plan.*

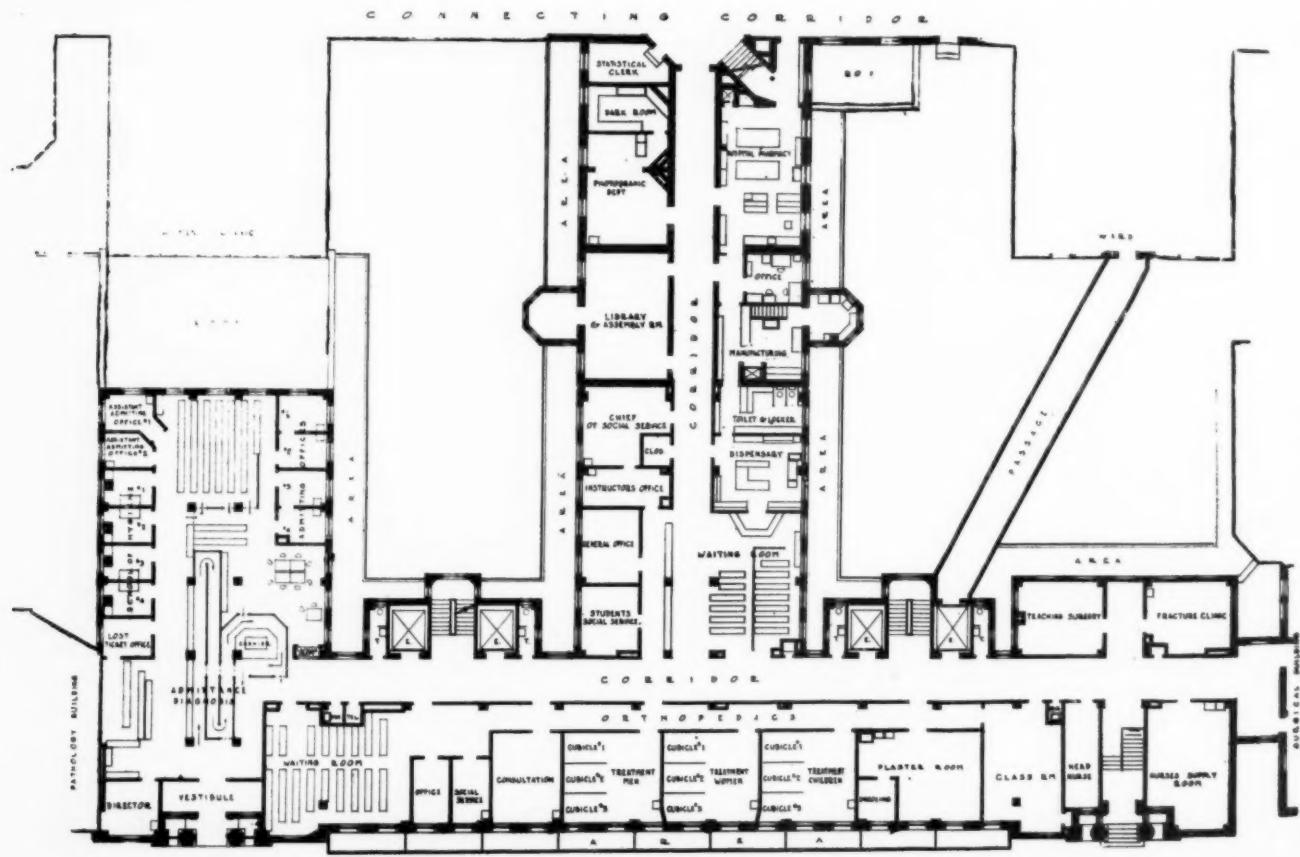
the assistant superintendent in charge of the building and the supervising nurse. The orthopedic, fracture and thyroid clinics are on this floor. In an adjoining part of the old surgical building, connected with the new one, are the surgical clinic, the accident department and the clinics for plastic and rectal surgery.

The second floor is occupied by the clinics for gynecology, dermatology, neurology, syphilis and basal metabolism, and by a special clinic for diathermy and ultra-violet ray therapy. The x-ray division occupies the entire second floor of the old building adjoining. On the third floor, space is devoted to obstetrics, General Medical Clinics II and III and a special clinic for teaching physical diagnosis. On the same level in the old building adjoining are the dental clinics, central media rooms, a research laboratory for the study of common colds, and of-

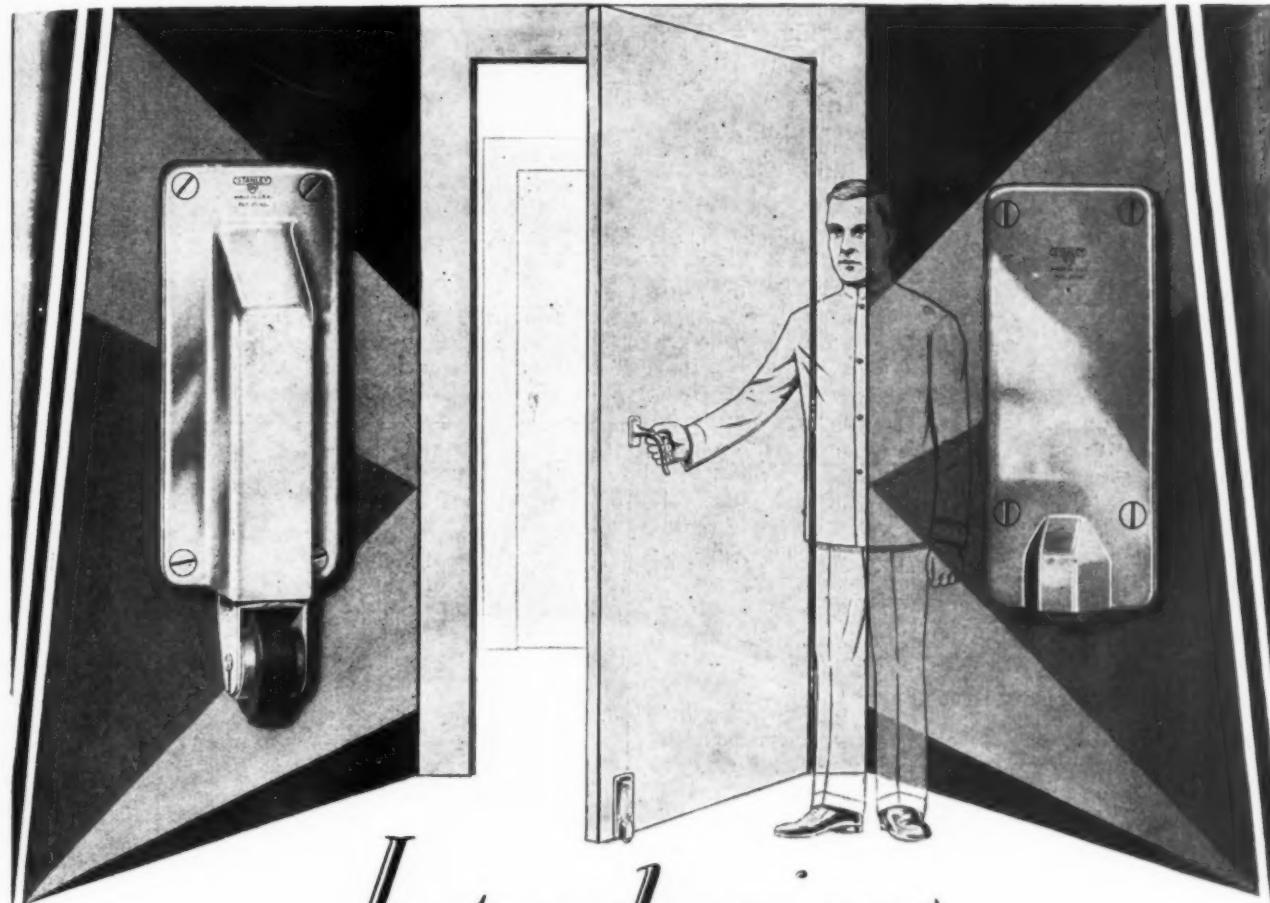
fices and a research laboratory for the department of otolaryngology.

Clinics for ear, nose and throat, general medicine, gastro-enterology, diabetes, protein sensitization and for the study of respiration are on the fourth floor. Offices and laboratories for the full-time physicians and surgeons occupy the fifth and sixth floors. The seventh floor contains seven operating rooms, together with sterilizing, anesthetic and scrub rooms and recovery and dressing rooms. The surgical amphitheater, offices and supply rooms are also on this floor.

Offices, lounges for students and visitors, a lunch room for surgeons, sleeping rooms for orderlies and entrances to the observation stands and amphitheater are on the eighth floor. On the ninth floor are the fans, ducts, motors, air filters and elevator machinery together with space



FIRST FLOOR PLAN



## *Introducing* “The Silent Watchman for Hospital Doors”

1. The Surface Type No. 453
2. The Mortise Type No. 454

Silence is more than golden in the corridors of a hospital where the sudden slam of a door may cause to flicker a carefully fanned flame of life.

To allow hospital doors to open and shut without slamming and to hold them automatically in any desired

position, Stanley announces the new “Silent Watchman” for hospital doors.

Silent, positive and dependable, the “Silent Watchman” requires no adjustment. It has a long life under severe use and is economical to install. Made in two styles with bronze cases.

*Send for full information on this new Friction Roller Door Holder.  
The Stanley Works, New Britain, Conn.*

# STANLEY HARDWARE



reserved for a heliotherapy unit which may be added in the future.

Each clinic is staffed by one or more physicians or surgeons-in-charge, clinic physicians or surgeons and assistant clinic physicians or surgeons. Interns from the house staff serve in each clinic as do also third and fourth year medical students. The staff consists of 160 physicians and surgeons. In the several clinics regular staff meetings are held to discuss the work and review the histories.

The out-patient department is in charge of an assistant director of the hospital. A supervising nurse is responsible for the nurses and the direction of personnel. A graduate nurse is in charge of each clinic. Pupil nurses undergo a period of training there.

The out-patient department utilizes the following personnel: physicians and surgeons, 160; graduate nurses and supervisor, 12; pupil nurses, 14; admitting officers, 3; pharmacists, 2; social service workers, 4½; clinic and history room clerks, 43; technicians, 10; porters, messengers, attendants, 8; maids, 3; elevator operators, 3; masseurs and gymnasium instructors, 3. Cleaners and mechanical workers are delegated from the general hospital forces.

The hours of admission in the general out-patient department are from eight to ten o'clock every morning except Sundays and holidays. The ophthalmological clinic, which is housed in the new Wilmer Ophthalmological Institute, is in session in the afternoon and admits patients from one to two o'clock. Psychiatric and pediatric clinics are located in the Henry Phipps Psychiatric Institute and the Harriet Lane Home for Children, respectively. The latter clinic operates both morning and afternoon, and the former every morning except Thursday. Each of these clinics has its own admission and history system, but refers to and from them are conducted as in the other clinics.

In the general out-patient department all clinics are open daily, with the exception of the rectal and plastic surgical clinics and fracture clinic which are in session three days a week; the diabetic and protein sensitization clinics, two days a week and the thyroid and radium clinics, one day a week.

Three trained social service workers are engaged in the admitting. In addition there are from four to six admitting clerk-stenographers, two cashiers and two attendants. One of the attendants is stationed at the out-patient department entrance and the other in the waiting room. Two volunteer social service workers and a secretary complete the personnel.

Patients on entering the building are formed into two lines by the attendant at the door. The old patients pass directly to the cashier. The new patients are directed to their waiting space where they are interviewed in the order of their arrival by one of the admitting officers.

#### Securing Information About the Patient

In this interview the chief complaint is ascertained, the social history taken and the patient's financial status determined. Neither time nor personnel permits an outside investigation of each case. The patient's financial ability to pay clinic fees or his ability to consult a private physician instead is determined from the information secured such as income, dependents, type of employment—whether seasonal or otherwise—and the nature and duration of the illness. The vast majority of new patients fall within the limits of the clinic type and it has been found necessary to refer only a small proportion—less than 1 per cent—to the private physician or to the recently organized diagnostic clinic for persons of moderate means.

The basic charge for the first visit is \$1. Thirty-five

cents is charged for each subsequent visit. When the admitting officer judges the patient unable to pay the fee, a free pass is issued for a limited time only, depending upon the circumstances. A readjustment is made at the end of each period. The time of one admitting officer is devoted each morning to readjustments of charges and to the issuing of free passes to old patients. During the year ending June 30, 1928, out of 211,925 visits made to the out-patient department, 64,062, or about 30 per cent. were free.

After the interview the new patient goes to a typist who assigns him a serial number, fills out the heading of the first history sheet and admitting card and directs him to the cashier. The cashier obtains the necessary statistical information from the patient, collects or charges the fee

Clinics	CLINIC ATTENDANCE IN 1927		
	New Clinic Cases	Old Clinic Cases	Total Patient Visits
Medicine .....	4,001	8,634	12,635
Gastro-Intestinal .....	1,676	8,755	10,431
Metabolism .....	224	2,631	2,855
Tuberculosis .....	1,423	3,205	4,628
Neurology .....	1,082	2,369	3,451
Surgical .....	2,289	21,211	30,337
Fracture .....	9,126	1,519	2,008
Genito-Urinary .....	489	7,187	9,540
Orthopedic .....	2,353	16,249	19,105
Laryngology .....	2,856	8,496	12,833
Ophthalmology .....	4,337	7,597	11,259
Dermatology .....	3,662	4,291	6,124
Gynecology .....	3,477	6,739	10,216
Obstetrics .....	1,263	6,755	8,018
Dentistry .....	1,609	1,699	3,308
Department "L" .....	1,246	21,948	23,194
X-ray .....	14,480	.....	14,480
Cystoscopy .....	248	1,103	1,351
Protein .....	309	2,831	3,140
Total	55,694	133,219	188,913
General Dispensary .....	4,504	15,481	19,985
Phipps Psychiatry .....	1,515	1,512	3,027
Grand Total .....	61,713	150,212	211,925

on the admission card or passes him free and issues a receipt. This receipt directs the patient to the proper floor and clinic. Two duplicates of it are sent to the history room through a chute. Where fees are charged, when a designated amount has accumulated on a patient's admission card, the cashier before registering him sends him to the admitting officer who is assigned to the adjustment of fees.

When the patient reaches the clinic he is met by the clinic clerk. This clerk is a typist-stenographer. She assigns new cases to the physicians, makes appointments and refers and takes the doctors' dictation on each visit, taking also the original history and the subsequent return visit notes. At the close of each clinic session the history or note is typed by her into the record.

Out-patient department histories are filed in the central record room, the unit history system obtaining in the hospital. When a clinic patient enters the hospital for treatment, the clinic history is bound with the house history and a new unit number assigned. Until that time, all clinic histories are kept in separate files. A central card index file is kept for all patients, both of the "house" and of the out-patient department. Duplicate admission slips of clinic patients admitted to the hospital are sent to the history room and the clinic history removed and sent to the ward. Blank space is left to continue the history of a discharged ward patient upon his return to the out-patient



## Sanitary and Pleasing

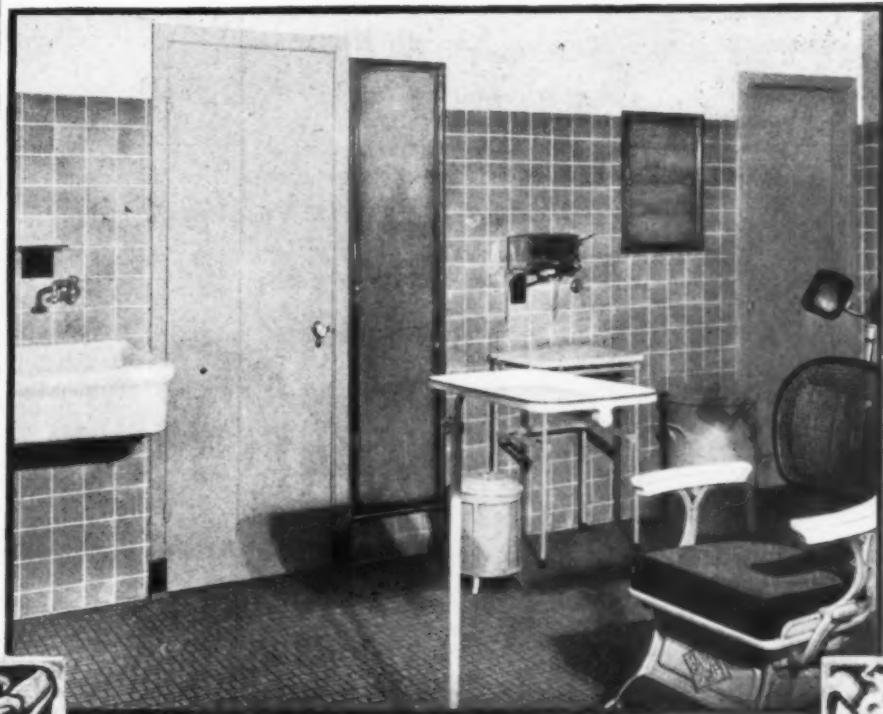
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department for treatment. The unit number is assigned to such patient's clinic admission card.

As old patients pass in front of the cashier in the out-patient department for registration, the registration machine produces a slip in triplicate and in addition prints on a continuous tape the statistical information contained on the slips. Each slip contains the date, history number, the name of the clinic, serial number for the out-patient department for the day, serial number for the clinic for the day, the cash or charge amount of the transaction and data showing the sex and race of the patient and whether he is a new or old patient.

At the end of the day statistics are compiled from the machine tape. One slip is given to the patient and two are sent through a chute to the history room. One of the latter acts as a receipt in the history file folder. The second is kept in a visible file box to serve at the end of the day as a check on the location of all histories withdrawn from the record room. Histories are withdrawn from the files and delivered to a special receptacle on the proper floor by a conveyor, from which they are carried to the clinic by pages assigned to these delivery stations. The history thus arrives at the clinic by the time the patient does or shortly thereafter.

Patients entering the out-patient department who have lost their admission cards are sent directly to the history room where a new card is made out. Then the patient is sent to an admitting officer who assigns him to the proper clinic. Clinic histories are filed in folders in cabinets while unit histories are filed in upright filing bookcases, arranged numerically.

## Economic Advantages of the Hospital Laundry

Why should a hospital with an average of 1,000 pieces of linen daily be equipped with its own laundry? Ralph M. Hueston, superintendent, Silver Cross Hospital, Joliet, Ill., answers the question.

The hospital can do its laundry more economically than a commercial laundry can afford to do it.

There is a material saving of linen in the personal supervision of the laundering.

The promptness of service makes it unnecessary to maintain a large reserve supply of linens.

Comparing the charges of the commercial laundry with the cost of the hospital laundry, it was found that at Silver Cross the commercial laundry cost was \$1.65 per 100 pieces, and the cost of the same number of pieces at the hospital laundry was eighty-five cents.

The cost of service, the quality of service and the dependability of the employees will be governed by the employer.

Mr. Hueston says: "We put forward an extra effort to keep our employees satisfied. We pay what the local commercial laundries pay. We encourage the employees to arrange their work so that they can get a full Saturday afternoon off. Since the regular lunch time is late we serve sandwiches and coffee at 9:45 o'clock in the morning. Once in a while we serve an ice or ice cream at 3 o'clock in the afternoon. We do not deduct from salary for any reasonable time lost because of sickness. We give a paid vacation after a year's service. We permit the department to arrange the working schedule for all holidays.

"The quality of work, the promptness of service, the interest in giving the best of service and the dependability of the employees—we have four of the original five we

employed when the laundry was reconditioned nineteen months ago—make us feel that we are amply repaid for the little extras we do in addition to the regular salaries."

## How Can the Time of the Operating Staff Be Saved?

In the construction of the surgical clinic, the number and type of personnel required to carry on the work of this division should be carefully considered. The number and arrangement of operating rooms have a distinct bearing on the cost of conducting this suite. Moreover, it is surprising to note the amount of surgery that can be performed in some hospitals possessing but one operating room. In such situations, it will usually be found that the closest of schedules are operative and that an earnest attempt has been made to utilize advantageously every moment of the operating personnel's time, as well as every square foot of floor space available.

In the first place, careful scheduling of operations is most important. It is usually considered that an hour for a major procedure, with from fifteen to thirty minutes intervening to prepare the room for the next operation, is a reasonable measure. Further elaboration of this subject will be found in the answer to another query bearing on this subject. When two rooms are available, and but one surgeon is operating, both rooms should be prepared so that the major members of the operating teams can move promptly to the second room where the patient has already been anesthetized. In this way, surgical treatment of succeeding patients can proceed without delay. Having at hand previously prepared instrument and supply tables that can be moved into the room at the conclusion of an operation often speeds up the day's work.

Nothing is more exasperating to the operating room staff than for a surgeon to be persistently tardy in meeting his scheduled appointments. In many hospitals, a rule covering this point exists. When a surgeon who has been scheduled for a definite hour does not explain his tardiness by telephone, his operating room reservation is declared forfeited after thirty minutes beyond the hour set have elapsed. Often the arrival of patients in the operating room suite is unduly delayed. In an attempt to solve this difficulty, some hospitals permit several patients to be sent to the operating suite at the same time. This practice appears to be unfair to patients, since the atmosphere of the operating clinic cannot but add to the fears of even the most placid person.

The speed with which a surgical operation can be performed depends not only upon the operator himself but also upon the skill and team work of those assisting him. Some of the country's most distinguished surgeons owe much to the faithful and efficient support of their medical and nursing assistants.

The type of anesthetic to be used should be a part of the operating schedule. There is nothing more exasperating than for a spinal anesthetic to be called for, when ether or gas is expected. To be sure, a sterile tray of the instruments needed for both spinal and local anesthesia should always be at hand. In the absence of this preparation, avoidable delays often result.

Teamwork on the part of the hospital's employees and forethought and consideration for others on the part of surgeons are prime requisites for the smooth running of any operating room, and for the saving of time both for the physician and for his assistants.

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## NURSING AND THE HOSPITAL

*Conducted by M. HELENA MC MILLAN, R. N.,  
Director, School of Nursing, Presbyterian Hospital, Chicago*

# Why the Public Should Know About Schools of Nursing

By EVELYN WOOD

Executive Secretary, Central Council for Nursing Education, Chicago

THE nursing profession is being aroused as never before to a consciousness of the need of awakening the interest of the public in nursing education if schools of nursing are to be freed from their present economic handicap and enabled to offer opportunities comparing favorably with those offered by the best educational institutions of other professions.

Mrs. John H. Lowman, a member of the advisory committee of the school of nursing of Western Reserve University, in her discussion, "The Relation of the School of Nursing to the Hospital," challenges the isolated attitude of schools of nursing.

"Why are schools of nursing a thing apart from the standards of the world about them, eligible neither to public criticism nor public support?" Mrs. Lowman asks. "Why should they remain untouched by the influences which mold and shape the character of other educational institutions, and assure them progressive development along the lines of best pedagogical thought? How is it that any system of education can so cloister and immure itself as to lose the most precious of all benefits—the understanding, cooperation and support of the intelligent men and women of the community, whose constant interest in matters pertaining to education is one of the greatest sources of American pride?"

The absence of public interest in the education of the nurse is undoubtedly due to the fact that the public does not know that a certain type of preparation is necessary if the nurse is to take her place as a vital worker for community welfare. The public will appreciate the value of the well prepared nurse when it understands that the poorly prepared nurse is a menace to community health.

The nurse can make her greatest contribution to com-

munity service only when she has had a broad preparation and is available to all classes of society. When the public ceases to look upon the nurse as a luxury and comes to regard her as a necessity, there will be no question as to funds for her education just as there is no longer any question as to funds for the preparation of teachers.

The commercial world has proved the importance of establishing a familiar knowledge of any commodity it wishes to advertise. Millions of dollars are spent each year in familiarizing the public with trade names and manufactured products. Philanthropic organizations, depending upon the public for support, have long since learned the value of constantly informing the public of their activities so that when an appeal for funds is made the name of

### Publicity Is Needed

To arouse the interest of the public so that schools of nursing may be placed on a sound economic and educational basis.

To promote a better understanding of the developments in nursing education among educators in schools and colleges.

To attract to the profession young women who are capable of grasping the opportunities open to the nurse to-day.

the associations and the persons sponsoring it are already familiar.

The best universities and colleges, although they are overcrowded, constantly follow definite policies of publicity because they must have the interest and support of the public to carry on their work. Consequently, when millions are contributed annually to all forms of education, the farseeing universities and colleges receive their share. Nursing schools remain practically untouched by contributions. On the other hand, the medical schools of the country are receiving huge endowments because they keep the public informed of the important contribution physicians are making to community welfare through service and research.

The public knows little of the services of the students in the nursing schools of our hospitals. It thinks that the student nurse receives as much as she gives and it seldom questions her preparation. The public is com-



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placently unaware that student nurses contribute many thousands of dollars annually to the support of the hospitals over and above the cost of their maintenance and the inadequate education frequently provided for them by these institutions.

The problem of nursing education, however, should no longer be left entirely to the hospital. It concerns the community vitally and hence becomes a public responsibility. A well run school of nursing is a great financial burden to the hospital conducting it. An institution cannot carry on this necessary piece of educational work without sufficient funds. Demands are being made upon nursing schools to-day that cannot be met without better financial support. Active propaganda for nursing education is necessary because of the unfavorable attitude that has been created by the work of the poor schools.

A better understanding of the achievements and opportunities of the nursing profession can be promoted among those who influence young women for or against nursing. Parents and educators must be informed that there are schools of nursing that maintain high admission requirements, where good teaching and supervision prevail, where hours of duty are moderate and where students are treated with courtesy and respect. Through parent-teacher associations and clubs, parents and educators should be kept in touch with the more recent developments in nursing education and the expansion in the field of nursing.

To attract young women of the type needed in the nursing profession a strong appeal should go to the students in our colleges. They must be informed of the positions of responsibility and influence, especially in administrative, educational and public health work, that offer unusual opportunities for women of intelligence, initiative, and vision. The fact must be stressed that these positions compare favorably in every way with those offered to college women in teaching, journalism, business, social work and other professions, and that for the highest nursing positions one needs the same good educational background and sound professional training so essential in other professions.

#### *Effective Publicity for Nursing Education*

An example of effective publicity is the work carried on by the Central Council for Nursing Education of Chicago. The council, organized eight years ago, was the first group of lay people, members of boards of directors of hospitals and directors of schools of nursing to come together to study the problems of nursing education so that students in nursing schools might be given a sound professional education in order that the community might be provided with better nursing service.

The council was faced with the task of changing the point of view of the public in regard to the disadvantages and hardships involved in the preparation for nursing. Many improvements have been made in the schools of nursing holding membership in the central council so that they could be advertised honestly. The finest and best aspects of nursing have been presented and the importance of selecting a good school of nursing has been stressed in addressing parents, teachers and students. Approximately 400,000 young women in the colleges and high schools of the central states have been addressed by the executive secretary of the council during the last eight years.

In its efforts to arouse the interest and support of the public in the preparation of the nurse the council has brought to Chicago speakers who have had definite contributions to make in advancing nursing education including such men and women as Dr. Haven Emerson, Dr.

Richard Olding Beard, Dr. Annie Warburton Goodrich and Dr. May Ayres Burgess.

Publicity for nursing schools can be disseminated in many ways. The graduates of good schools of nursing are, of course, the best form of publicity for nursing education but there are many active mediums which reach the lay public, particularly the giving public, and which cannot be neglected, such as the daily press, magazines, radio campaigns, the distribution of well prepared literature, the presentation of plays and pageants showing various phases of nursing, exhibits of accomplishments in nursing and vocational talks on nursing as a profession before high-school and college students.

The avenues of publicity are many and can be utilized with the best results by schools of nursing. In fact, their utilization is imperative if schools of nursing are to be placed on a sound economic basis.

Real recognition of the nursing profession cannot be achieved until the public is willing to make endowments for nursing education with the same generosity that it displays in endowing all other forms of education.

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#### More and Better Nurses Are Needed Says Southern Superintendent

As I read "Nurses, Patients and Pocketbooks—A Symposium," in the January issue of THE MODERN HOSPITAL, this thought came to me: While raising the educational standards, it would not be amiss to raise the moral standards also.

The young girls, just out of high school as they enter training, full of energy, with an inordinate love of popularity, having heretofore been protected by the restraining hands of parents, are delighted to be free from this restraining influence. They are anxious to try out their wings and see how far they can fly. They need a sound course of ethics given by teachers of sterling, ideal characters, that they may not lose sight of the better and finer things of life.

We have so many nurses in the private nursing field who are satisfied to have obtained a diploma and a certificate of registration. They are not ambitious. They wish to work only part time that they may have leisure to partake of all the world has to offer them. They do not try to improve. They are satisfied with themselves and conditions as they are.

The time has come for the principals of training schools to be awakened to the fact that to elevate the standards, they must first of all establish a solid foundation for the profession of nursing.

It may seem to some that the nursing profession is overcrowded, but in great emergencies, like the hurricane in Florida, the Mississippi flood and the flu epidemic, it is distressing indeed to have calls for nurses, knowing that they are desperately needed, that people are suffering and dying from lack of attention, and to be unable to procure them.

I agree with Dr. Edgar A. Bocock, Gallinger Municipal Hospital, Washington, D. C., who says, "The country needs an enormous number of graduate nurses." We have all sorts of statistics published as to the number of nurses graduating annually, but we have no statistics enlightening us as to the number dropping out of the profession annually from different causes. We need more nurses and better nurses.—Sarah A. Pollard, R.N., Superintendent of Nurses, Fitzgerald Hospital, Fitzgerald, Ga.

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## DIETETICS AND INSTITUTIONAL FOOD SERVICE

Conducted by LULU G. GRAVES, 7 East 54th Street, New York, MARY A. FOLEY, Director of Dietetics, Kahler Hospital, Rochester Minn. and S. MARGARET GILLAM, University Hospital, Ann Arbor, Mich.

# Organizing and Managing a Dietary Department—A Study

By S. MARGARET GILLAM  
Dietitian, University of Michigan Hospital, Ann Arbor

FROM the returns furnished by 175 hospitals through a questionnaire sent out by the American Hospital Association and from a study, "Labor Organization, Labor Turnover and Food Costs," made by the American Dietetic Association, this report on the hospital dietary department has been prepared. The returns received by the American Dietetic Association were from 128 hospitals and in no case were duplicated in the previous study. The report, therefore, represents material available from 303 of probably our most progressive hospitals distributed about equally throughout the United States. The returns from Canada were from both the eastern and the western sections, with the greater number, however, from Ontario.

It is hoped that the material supplied in this report will be useful to the hospital administrator as a general reference in problems of organization and administration of the hospital dietary department, and especially is it hoped that it may be of assistance to the hospital director in the building of a new organization. The study may be suggestive to the administrative dietitian in developing her organization and in stimulating an interest toward some degree of standardization. It will perhaps provide the initiative for comparative studies. From the report, averages indicating the general trend in management are obtained, thus forming a nucleus for constructive information.

The hospitals reporting, for convenience in securing comparative figures, were divided into groups according to the bed capacity, and each group, it is interesting to observe, represents about an equal number of hospitals: Group I, thirty-five to 100 beds; Group II, 100 to 126 beds; Group III, 126 to 200 beds; Group IV, 200 to 300 beds; Group V, 300 beds or over.

*The Dietitian.*—A well organized dietary department, it is expected, will have a competent director and, to quote a hospital administrator, "It is natural that we would expect her to have a liberal background of education, to be a graduate of a recognized school of dietetics, with special preparation and experience in hospital dietetics along administrative and executive lines." He states further, "The incumbent must have a pleasing personality, be adaptable, exercise diplomacy, be tactful and coopera-

tive, be imbued with the spirit of service, have an anticipating mind, one that has vision beyond present day conditions in order to initiate, develop and advance."

The duties of the dietitian have been clearly defined as administrative, scientific and educational. It is felt that to have a successfully functioning dietary department, the status of the dietitian in regard to her duties and relationships to other departments must be clearly defined and the dietitian should be given authority in the exercise of these duties.

In the replies from 175 hospitals we find that only three are without dietitians. The chief dietitian is responsible to the superintendent in all but six hospitals. In four hospitals, we have the dietitian responsible jointly to the superintendent and the director of nursing. In one, the dietitian is responsible to the superintendent of nurses and in another the dietitian is responsible jointly to the superintendent and the president of the board.

All but 16 dietitians have supervision of the entire dietary department. The exceptions are food service on the wards and the nurses' and employees' dining rooms. One dietitian stated that she had joint responsibility with the steward and 2 stated that they did not have authority over the chef. One hundred and one reported as buying the food, 4 reported as buying the perishables and 52 stated that they did not carry on the buying. Should not the dietitian be consulted regarding equipment purchasing? This report would indicate that 40 dietitians buy equipment, 19 buy part of the equipment and 94 do not buy their equipment. It is interesting to note, however, that all but 5 have their requisitions purchased as specified.

If the duties of the dietitian shall be undivided and complete, as has been stated, should she not be entrusted with the control of her employees? Twenty-four dietitians state they do not have complete control of the hiring of their employees and 22 do not have the authority for discharging them. The exceptions are in hospitals of more than 200 beds, and the report states that the discharging of employees is done in some cases by the steward, the chef, the housekeeper or the superintendent with the approval of the assistant superintendent.

More and more the dietitian is being considered an



**WARRIOR**, hunter . . . statesman, orator . . . fierce, nomadic . . . was the red man, misnamed Indian. He enjoyed exclusive occupancy of the whole American continent for at least a thousand years. His supremacy, wrested from a prehistoric race, was in turn lost to a superior civilization. Successive waves of white men submerged him, yet even today there are 180,000 full blooded Indians in the United States.



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important factor in the educational program of the hospital. This report shows that the dietitian carries on educational work for the hospital patients and the outpatients, which in some cases includes home visits. She performs an important function in assisting with the education of the student nurse, the student dietitian and the hospital intern. Only 4 reported as not carrying on educational work for student nurses. Sixty-five out of 77 reported that they carry on an educational program for student dietitians. Thirty-seven out of 63 reporting, carry on educational work in dietetics for the hospital intern. Hospitals estimated that from 1 per cent to 91 per cent of the time of the dietitian is devoted to educational work, with an average of 24 per cent.

The hours of work daily for the dietitian are varied, ranging from 6 to 12 hours with an average of 8½ hours, and with most dietitians working an 8-hour day. The majority of dietitians have 1 day off a week, with a range of ½ to 2½ days.

#### *Educational Standard Is Varied*

The educational standard for the dietitian is varied. In the 151 hospitals reporting on the chief dietitian's education, we find that 7 dietitians have an M.A. degree; 68 have a B.S. degree, some having the additional student dietitian training; 72 have 3 years and under; 2 are registered nurses, and 2 report no special training. The professional experience reported is from 1 to 25 years, the average being 6 years. The report regarding membership in professional organizations shows that there is a lively interest among dietitians in local and national dietetic associations as well as allied organizations. Most hospitals give time off for professional meetings; it is reported, however, that 28 do not. The standards set by the chief dietitian for her assistants seem to be a B.S. degree and six months' hospital experience.

In hospitals under 100 beds, the lowest salary listed for the chief dietitian is \$85 and the highest \$135. The salary most frequently paid seems to be \$100. In hospitals from 100 to 126 beds, the chief dietitian receives from \$65 to \$165 per month. The salary most frequently repeated is \$125 per month. In hospitals from 126 to 200 beds, the salary ranges from \$100 to \$150 with the majority receiving \$100 per month. In hospitals of 200 to 300 beds, the salary range is from \$100 to \$350. In hospitals of 300 beds and over, the chief dietitian's salary is from \$100 to \$200 per month. In the majority of cases the dietitian is given a month's vacation. However, two hospitals report that they give their dietitian no vacation. Dietitians, as a rule, live within the hospital with only about 10 per cent of the total number living out.

As stated previously, the professional experience of the dietitian ranges from 1 to 25 years. The longest length of service of a dietitian in one place was 17 years. The length of service of the present dietitian in the hospital averages for each group of hospitals from 2½ to 3½ years. For her predecessors it averaged 1½ to 3, 1½ to 3 and 1½ to 3 years, respectively.

**Employment and Labor Turnover.**—The American Dietetic Association, in its questionnaire, stressed the study of the labor situation. For some time one of the most difficult problems the dietitian has been emphasizing is labor organization and labor turnover. This labor problem in hospitals may be accentuated because of the low wage scale with no system of advancement and because of unsatisfactory conditions of feeding and housing. The practice of feeding and housing hospital employees tends to make cash wages less attractive and it does not have

a stabilizing influence upon the worker. Some hospitals are suggesting cash allowances in place of room and board. Many hospital administrators are giving more attention to securing a higher type of employee because they realize that by so doing the destruction to building and equipment is less and the general efficiency is improved.

One hospital that has put into operation a plan of small but regular increase in wages until a maximum is reached has had an appreciable decrease in labor turnover.

If a hospital is free to give the allowance in cash wages for board and room, a higher type of employee is attracted, since the wages are comparable to those offered industrial workers.

Labor turnover is found to be higher in hospitals of less than 125 beds. It ranges from 95 per cent to 153 per cent, which indicates a complete turnover once a year. One hospital situated near a resort reported a turnover equal to a complete change of workers ten times during the year. In the hospital food department vacancies are seldom anticipated; therefore, applications are not investigated but the applicant who presents himself at the moment needed is employed.

Salaries and wages show a considerable range. The chef receives \$112 to \$154 per month; cooks receive \$62 to \$98; bakers, \$56 to \$116; dishwashers, \$42 to \$59; kitchen helpers, \$41 to \$57; waiters and waitresses, \$38 to \$61; tray maids, \$37 to \$48 and others not classified, \$37 to \$84. Wages were higher on the west coast and notably lower in the South and in Canada.

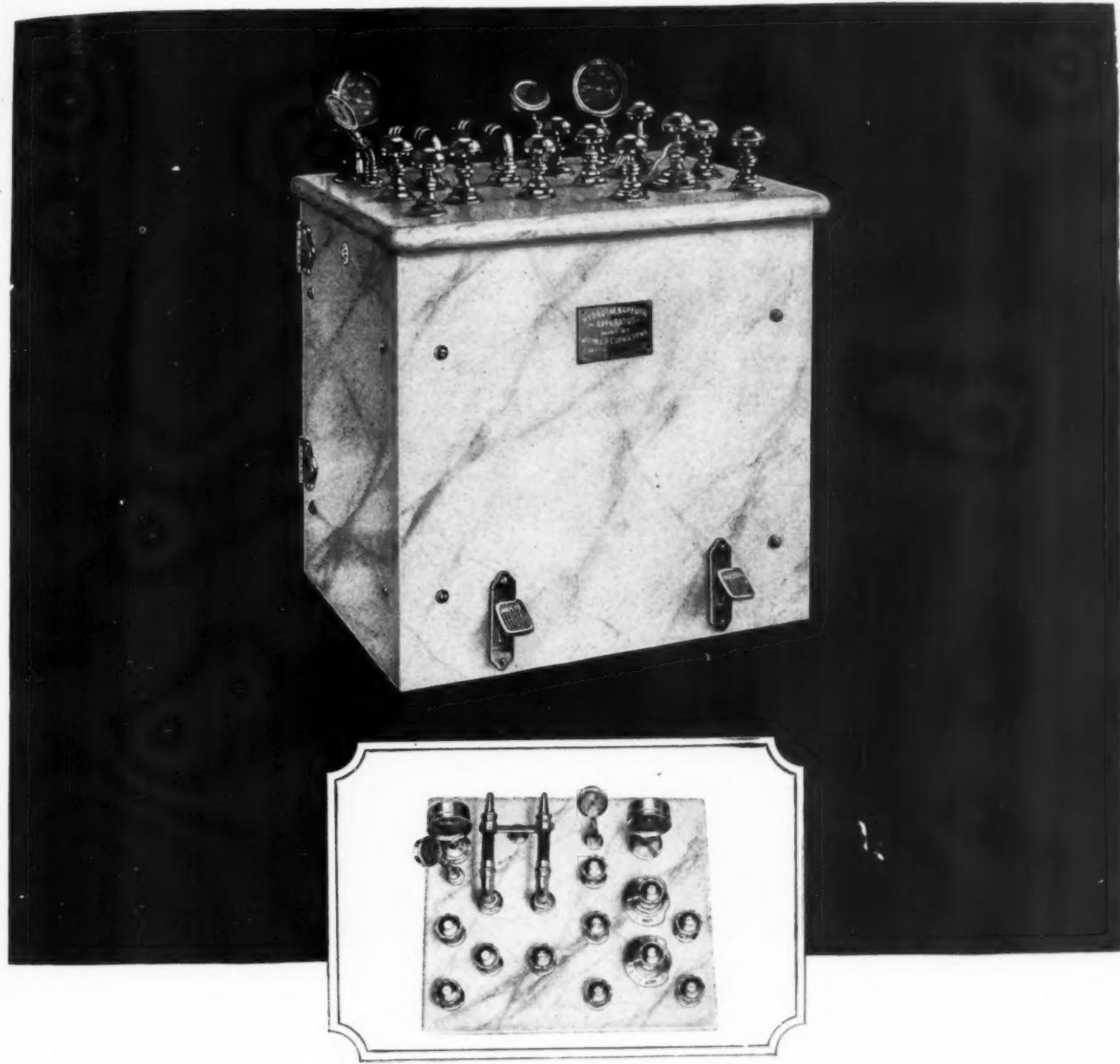
The employee works from 8½ to 9 hours a day, varying with the section of the country. In the South and in Canada particularly long hours of work were reported. The majority of hospitals have a standard of two weeks' vacation for employees.

#### *The Value of Health Examinations*

In the study made by the American Dietetic Association that deals more specifically with employment, we find in the food department in hospitals that the ratio of employees per patient in Group I hospitals is 1 to 9, with 1 to 34 persons served. The average hours of daily work are 65 hours, or 1 hour per patient. The per capita cost of labor is 16 cents per day per person served. In Group II the ratio of employees per patient is 1 to 9, or 1 to 40 meals served, with the average hours of daily work 112, or 1 per patient. The per capita cost is 14 cents. In Group III, the ratio is 1 to 10, or 1 to 47 meals served. The daily hours of work 142, or 1.1 per patient. The cost of labor is 15 cents. In Group IV, the ratio is 1 to 11 patients, or 1 to 49 meals served. The average hours of daily work 200, or 1.2 per patient. The cost of labor is 19 cents per day, the highest of all groups. In Group V, the ratio of employees per bed is 1 to 12, or 1 to 55 meals served. The average number of hours of daily work is 407, or 1.4 per patient. The per capita cost of labor is 11 cents per person served per day.

A word should perhaps be said about the routine health examination for the employee. The hospitals are about equally divided for and against this requirement. Some hospitals in which it is required find such a rule difficult to enforce. The health examinations no doubt would more than repay the hospital in the detection of the unfit and undesirables who might in a short time need hospital care.

**Food Service.**—Food service in hospitals as to type and method has been widely discussed by hospital administrators and architects. Probably one type of service should not be advocated for all hospitals, but the service that will be most effective for the hospital patient should



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Above is shown side and top view of the Clow Control Table. Side view shows two foot pedals for operating drain valves. Top view shows arrangement of supply and control valve, temperature and pressure regulating devices.

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be provided, with proper consideration being given to the general layout and the limitations of personnel. This report yields interesting data regarding food service to patients and personnel. The bed capacity of the hospital seems to be no indication of the demands to be made on the dietary department in numbers to serve. In our study of 175 hospitals there is a great variation as to the persons served. In Group I the average bed capacity is 73; 106 persons are served daily, 37 of whom are patients with 4 of these on calculated diets. Group II, average bed capacity, 108; 173 persons served, 76 of whom are patients with 11 on calculated diets. Group III, average bed capacity, 153; 223 persons served, 99 of whom are patients with 9 on calculated diets. Group IV, average bed capacity, 241; 404 persons are served, of whom 178 are patients with 17 on calculated diets. Group V, average bed capacity, 464; 755 persons are served, of whom 357 are patients with 33 on calculated diets. In all hospitals there is an attempt to consult the patients' likes and dislikes in food.

#### *Dietitian Supervises Food Service*

Central tray service is used in preference to ward service in Group I and Group II. In Group III the hospitals are about equally divided as to the type of food service. In Groups IV and V, made up of hospitals of more than 200 beds, we find that about three times as many hospitals use the ward service as central tray service.

The food service to patients is supervised almost entirely by the dietitian and the trays are served by the nurse except in a few instances where the serving is done by the dietitian. However, in our larger hospitals the food service to the patient is directed by the nurse.

In both reports we have interesting data regarding cafeteria *versus* waitress service for the personnel. From the questionnaire sent out by the American Hospital Association we have returns from 134 hospitals. Cafeterias are in use in 12 hospitals for the staff, in 48 hospitals for the nurses and in 81 for the employees. From the American Dietetic Association report we find that of 125 hospitals reporting on this subject, 6 have cafeteria service for the staff, 23 for student nurses and 44 for the employees.

**Construction and Layout.**—Hospital superintendents and architects are realizing that the dietitian is able to give considerable assistance in planning and equipping the dietary department. Her viewpoint has a practical foundation, since she is able to visualize the food department in operation and to foresee mechanical difficulties.

Through this report it is impossible to interpret useful information regarding layouts, but the data are of some interest. Eight hospitals report as being without offices for the dietitian and 14 are without cooking laboratories. Diet kitchens vary in size from 12 by 16 feet to 20 by 30 feet, the latter size being quite popular. Main kitchens vary from 20 by 40 feet in the small hospitals to 60 by 80 feet in the large hospitals. The food storage varies in size from 400 square feet to 1,314 square feet. Ward pantries range from none to 33 in number, and from 1 to 60 wards are reported in the hospitals. The average number of patients per ward pantry is about 25. For the service of food the steam, electric and insulated trucks are used.

**Administrative Efficiency.**—Many points were mentioned as methods of increasing administrative efficiency, such as conferences with the superintendent, the business manager, the budget committee, frequent interviews with the head nurses and conferences with dietitians in other hos-

pitals as well as visits to institutions. Other suggestions were the use of daily reports, daily inspection, instruction and demonstrations and the use of bulletins.

As a means of increasing the efficiency of the department, mention was made of labor saving equipment that has proved particularly useful, as well as lists of equipment that had been found to be inefficient. The following is a partial list of additional equipment which dietitians stated would reduce operating costs: aluminum utensils, electric mixers, choppers, grinders and slicers of all kinds, dishwashing machines, butter cutters, more refrigeration and more dumb-waiters and elevators.

Several food waste prevention methods were mentioned to increase the efficiency of the department such as careful supervision of food service on the wards and dining rooms, cafeteria service, the checking of food on returned trays by the dietitian and cook, the standardization of food servings, the weighing of all edible food returned on the trays, the weighing and inspection of all garbage. It was suggested that consideration be given personal tastes and that unpopular food should not be repeated on the menu. By some it was stated that the service of nourishments from a central kitchen had proved more economical. In regard to buying several points were made, such as a central purchasing office, the keeping of a small stock on hand, the purchase of the best quality, a close approximation of amounts needed and the purchase of the exact amounts required.

**The Dietary Department Budget.**—A well organized hospital is interested in the budget plan of financing. The dietary department budget is obtained from a study of previous expenditures over a specified period of time. Through the accounting department, this information on expenditures should be available. Food, equipment and salaries and wages should be budgeted separately. That the budget may be of practical value, the dietitian should be supplied with a record of expenditures at the end of each month and this should be balanced against the budget.

#### *Food Costs Average Eighteen Cents a Meal*

In an article in *THE MODERN HOSPITAL* for April, 1928, it was stated that, per meal served, the three classes of expenditures in a hospital should be about 18 cents for food, 6 cents for the pay roll which included all employees in the dietary department as well as the dietitian, and 2 cents for miscellaneous expense, making a total cost of 26 cents per meal. I believe it is of interest here to give the report from both of the questionnaires that we have been considering. In the report taken from the 175 hospitals obtained through the American Hospital Association, we find that the average cost of food per meal is 18 cents, the pay roll 4 cents and supplies too varied in cost to report. In the study made from the questionnaires sent out by the American Dietetic Association, the per meal cost of food is 18 cents, the pay roll cost is 5 cents and the supplies' cost is 1.8 cents.

It is of interest in the study of the budget to note that salaries and wages represent from 17 to 24 per cent of the dietary costs, the food from 65 to 74 per cent, and the miscellaneous expense about 4 per cent of the dietary costs. The dietary budget represents 26 to 28 per cent of the hospital operating costs.

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 Gilliam, S. M.—Labor Organization, Labor Turnover and Food Costs in the Hospital Dietary Department for the Year 1927-1928, *The Journal of the American Dietetic Association*, 1928, IV, 133-141.

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## HOSPITAL EQUIPMENT AND OPERATION

With Special Reference to Laundry, Kitchen and Housekeeping Problems

Conducted by C. W. MUNGER, M.D., Director,  
Grasslands Hospital, Valhalla, N. Y.

# How the Laundry at Rockaway Beach Hospital Is Paying for Itself

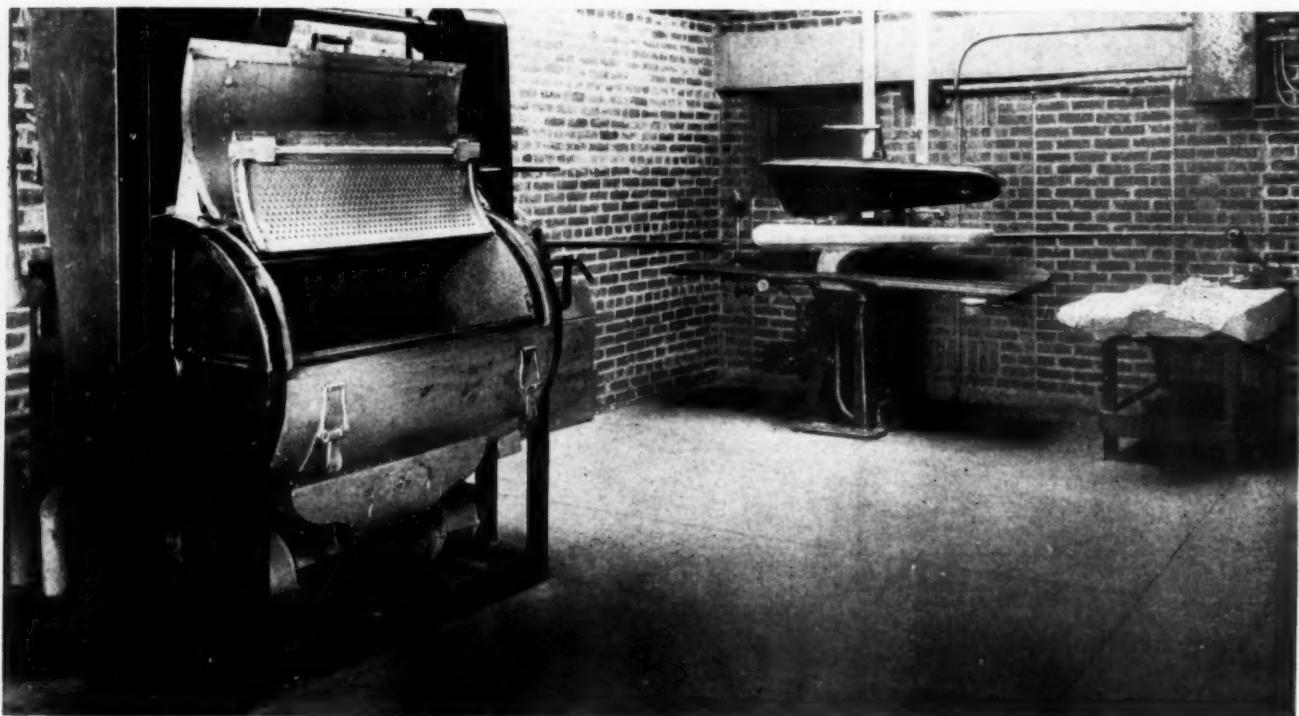
By S. CHESTER FAZIO  
Superintendent, Rockaway Beach Hospital, Rockaway Beach, L. I., and  
RICHARD RESLER  
Architect, New York City

THE Rockaway Beach Hospital is located at Rockaway Beach, Long Island, in the Borough of Queens, one of the five boroughs that comprise what is known as Greater New York. Rockaway Beach, although twenty miles from the center of population, is really a part of New York City.

Due to the fact that Rockaway Beach is within easy commuting distance of New York City and is a popular summer resort, there is an unusually wide variance in the seasonal demands upon the hospital with the peculiar circumstance that the peak load occurs during the summer months. In winter the population of the district

served is about 40,000. In summer the resident population is about 200,000 and is augmented at week ends by from 100,000 to 250,000 persons. The Rockaway Beach Hospital is a community hospital with a rating capacity of 125 beds. The yearly average of occupied beds is about seventy-five daily. The winter average is about sixty beds daily. This totals approximately 27,000 days of treatment annually. Practically 25 per cent of this number represents charity patients.

The original building was erected in 1908. In 1922 a large ward pavilion and a separate power plant were added. At that time it was recommended that a laundry



Above is shown the arrangement of laundry equipment at Rockaway Beach Hospital, Rockaway Beach, L. I.



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Ironing flat work at Rockaway Beach Hospital.

be included in the building program. A difference of opinion existed among the members of the board as to the advisability of this procedure because of limited funds. It was decided to continue sending the work to a local commercial laundry. The board of trustees later reconsidered the earlier recommendations and the laundry was built in 1926.

Only a moderate amount of money was available for this purpose, and this necessitated rigid curtailment of expenditures for both construction and equipment. The cost of the new laundry building together with standard laundry equipment was less than \$10,000. It was estimated that the laundry would pay for itself within five years. This department has exceeded the most optimistic expectations, as it is now evident that this will be accomplished within four years. The accompanying studies

show that sending the work to a commercial firm is decidedly more expensive than the operation of the hospital laundry.

Five major advantages to which the attention of the board was directed, in connection with the recommendations for the installation of a hospital laundry, were:

1. More economical laundering costs.
2. Decrease in per capita cost per patient.
3. Greater rapidity and dependability of service.
4. Minimum supply of linen required because of limited rotation.
5. Control of processes of washing and handling resulting in less injury to fabrics.

These advantages have all been realized in operation.

1. The economy of operating the hospital laundry is obvious from a study of the accompanying schedules of

DETAILED COSTS OF LAUNDRY WORK DONE IN HOSPITAL, APRIL 1, 1927 TO APRIL 1, 1928

Month	Salaries	Soap	Soda	Bleach	Bluing	Coal	Electricity	Supplies
April	\$ 200	\$ 35	\$ 15	\$ 12	\$ 2	\$ 113	\$ 6.75	\$ 8.90
May	200	36	15	11	2	113	30.90	.....
June	200	36	15	11	2	113	29.20	.....
July	200	38	17	12	2.50	114.50	24.95	9.86
August	200	40	20	15	4	117	26.65	.....
September	200	38	18	12	3	116.50	28.35	6.50
October	200	38	17	13	2	116	30.05	.....
November	200	36	16	11	2	114	27.50	8.90
December	200	35	15	12	2	113	26.65	.....
January	200	35	14	11	2	111.50	25.80	44.50
February	200	34.50	15	12	2.50	111	23.25	.....
March	200	35	14.50	12	2	112	24.10	.....
	<b>\$2,400</b>	<b>\$436.50</b>	<b>\$191.50</b>	<b>\$144</b>	<b>\$28.00</b>	<b>\$1,364.50</b>	<b>\$304.15</b>	<b>\$78.66</b>

Maintenance Deductions

The cost of the laundry building and equipment must be included in ascertaining the cost of maintaining the laundry:

6% on the investment of \$10,000.....	\$ 600 for 4 years—\$2,400
10% depreciation on the investment.....	1,000 for 4 years—4,000
5% for repairs for the year.....	500 for 3 years—1,500

(No repairs were necessary during the year recorded.)

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**Quieter.**

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comparative costs. Some hospitals might notice an even more marked difference in costs in proportion to the pieces laundered each week, due to their having paid a higher rate. In some districts there may be only one laundry of the size or reliability required for hospital work. Without competitive bids the rate is apt to be high. This hospital was fortunate in that there were not only competitive firms but through the influence of one of the members of its board a most reasonable rate was secured.

COMPARISON OF COMMERCIAL LAUNDRY CHARGES  
FROM APRIL 1, 1926, TO APRIL 1, 1927, AND HOSPITAL  
LAUNDRY COSTS FROM APRIL 1, 1927, TO APRIL 1, 1928

Month	Commercial Laundry Charges	Hospital Laundry Costs
April	\$ 746.33	\$ 392.65
May	826.67	407.90
June	709.89	406.20
July	837.51	418.81
August	985.60	422.65
September	1,072.98	422.35
October	917.99	416.05
November	918.92	415.40
December	792.99	403.65
January	879.69	443.80
February	718.14	398.25
March	664.75	399.60
	\$10,071.46	\$4,947.31

2. The reduction in the annual expenditure for laundry work and linen maintenance has resulted in a decrease in per capita cost per patient. Items 3, 4 and 5 are an interlocking group producing an economy of linen maintenance directly attributable to the hospital laundry.

3. Rapid laundering keeps the linens in dependable rotation. For example, in case of a breakdown in the hospital laundry, the services of a commercial firm could be temporarily employed to maintain the supply. In case of breakdown or of labor difficulties in the commercial laundry considerable delay usually resulted. The hospital was unable to transfer the work to another firm, since it had been let under contract in order to obtain the most reasonable rate possible.

4. It has, of course, proved more economical to function with the amount of linen sufficient for daily use with rapid rotation and to have a moderate supply for emergencies, than with the greater amount necessary when rotation was slower and a large surplus was required to offset delays in receiving the laundry.

5. The length of life of the linens has noticeably increased since they have been laundered in the hospital. Commercial laundries use strong solutions to hurry the wash, with resulting wear and tear. There has also been a reduction in the number of pieces lost. This includes a negligible amount for pieces presumably stolen.

In order to achieve the advantages enumerated, it was necessary to devise an efficient routine, develop economical methods and instruct the help in the correct operation of the equipment. When the equipment was first installed the canvas covers on the rolls of the flatwork ironer were scorched to a degree to make them useless in a short time. This was found to be due to the fact that the steam pressure was too high. The pressure was reduced to eighty pounds. The workers were instructed to shut off the steam supply about ten minutes before the lunch or closing hours and to lay an old cover between the chest and the apron. The covers now last an appreciably longer time.

The size and shape of the hospital property and the

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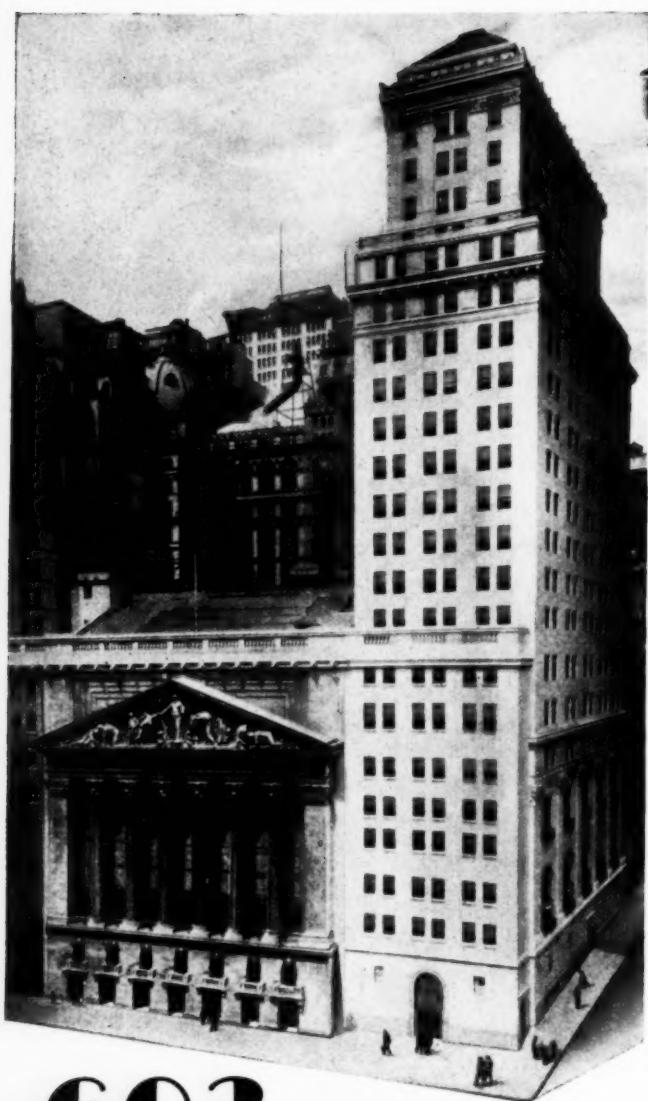
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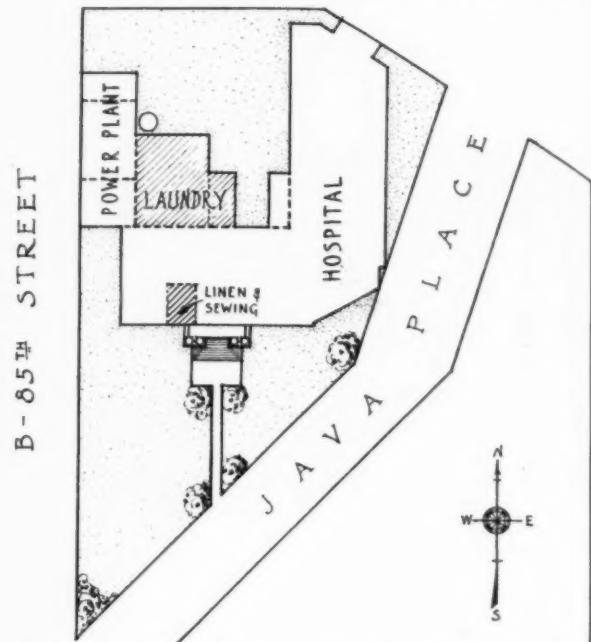
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location of the existing buildings made it impossible to place the laundry building in any position other than the one indicated in the illustration. Fortunately, the only available site was the one that would have been selected for practical reasons. The laundry building is connected to the hospital and is adjacent to the power plant. The patients are on the opposite side of the hospital and are, therefore, not disturbed by the noise.

This extension is one story in height with the level of the floor a trifle higher than the grade. A ramp leads from the laundry to the basement of the original building which is somewhat below the grade. The windows and



doors are so placed as to provide cross ventilation, while large skylights and a vent over the ironer further assure ample light and ventilation.

A slight inclination of the floor toward the trough under the washer and the extractor prevents puddles of water from collecting. The floor has a cement finish. It is desirable to have laundry flooring of some resilient material, but in this case the additional cost was prohibitive. Portable wood platforms are provided for each piece of equipment, since they are less tiring than the cement.

The equipment consists of a 36 by 54-inch washer, individual motor drive; a 28-inch extractor; a 30 by 42-inch drying tumbler; a 100-inch, two-roll, return, flatwork ironer; a standard, single, steam press; an ironing board and electric iron; a starch cooker and a soap tank. The machinery operates satisfactorily at a steam pressure of eighty pounds. The entire installation conforms to the labor laws of New York State which require numerous safety devices. A double-section laundry tub for small pieces is also used by the nurses and help for personal laundering after the regular laundry hours. Economy made it necessary to buy a washer with a wood drum. It would be better if it could have been of metal, monel metal particularly, to ensure stainless washing and the absence of verdigris. Metal trucks would also be preferable to the wood slatted ones purchased for economy's sake. The wood trucks are lighter to handle but the water seeps through to the floor. The wheels have ball bearings and are rubber tired and therefore are not noisy. The supplies are kept in a locked cabinet for which the laundry man is responsible.

The entire layout has been arranged for the comfort

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SPRENGER'S Sterilized Barley is also used in modern hospitals, especially for modifying cow's milk so as to make it suitable for infants.

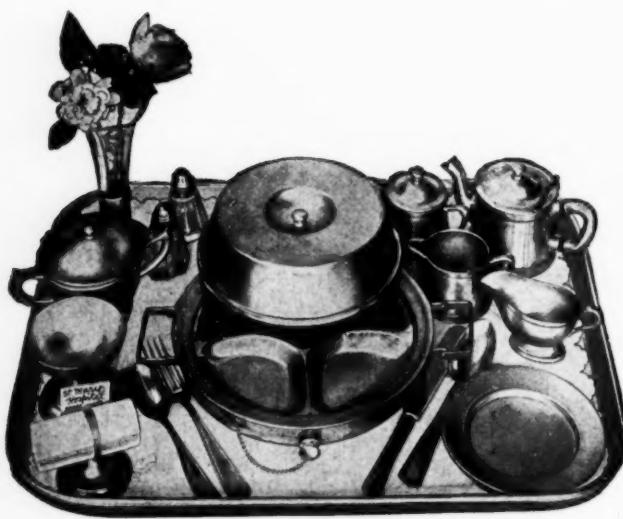
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# THORNER'S Silver Service



Thorner's Silver Service is made of 18% Nickel Silver with a quadruple silver plate. Wears a lifetime. Replacement through breakage is forever eliminated. It is never affected by wear or polishing.

Illustration features Thorner's Improved Three Compartment Hot Water Plate. Tea Set with reinforced bands, hard metal hinges, Silver Soldered and one-piece unbreakable bottom. Covered Soup Cup with Silver Soldered handles. Sherbet Dish, Gravy Boat, Individual Napkin Ring and Tray Marker, Bud Vase, Salt and Pepper Shakers and Superior Grade Sectional Plate Flatware.

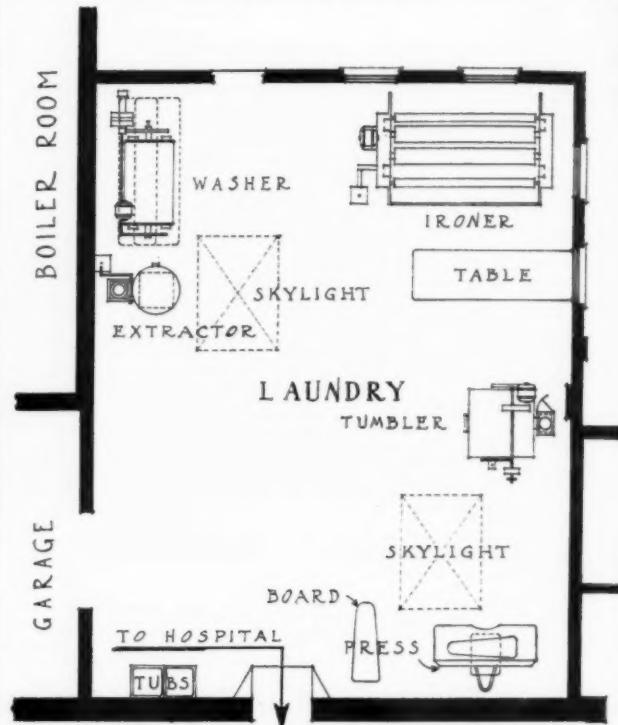
## THORNER BROTHERS

*Importers and Manufacturers of Hospital and Surgical Supplies*

135 Fifth Avenue  
NEW YORK CITY

of the help, thereby promoting efficiency, and to provide easy access for repairs and lubrication. The machinery is thoroughly cleaned and oiled every Saturday afternoon. Some parts are oiled every morning. The resident engineer, who attends to the minor repairs, inspects the equipment once a week. A service man from the manufacturers of the installation inspects it about once a month.

In establishing the number of days per week for the operation of the laundry the Rockaway Beach Hospital faced a peculiar condition in the wide variance in seasonal demands. It was suggested that the laundry be



operated only three days a week during the winter months with the intention of reducing salary and coal expense. It was, however, decided to operate the laundry six days a week throughout the year.

A three-day week during the winter months was considered impractical for the following reasons:

1. A greater linen supply would be needed because of the slower rotation.
2. Since eighty pounds of steam pressure is daily maintained for the sterilizers, the coal consumed by the operation of the laundry an additional three days a week would be negligible.
3. Water is furnished to the hospital without tax, as it is to all the hospitals in Greater New York that accommodate charity patients. The temperature of the hot water received at the laundry is 180 degrees. The hospital supply is not affected.
4. The important question of help: Laundry workers are given a fair salary and steady employment the year round with rather light work during the winter. This results in little turnover and dependability in emergencies. For instance, during the peak load months of the summer, they cooperate by staying late, frequently until 7 p. m., and all day Saturday without extra or overtime pay.

A three-day week is not attractive to persons seeking full-time, year-round employment. This results in less interest in the institution and in the position which means, in turn, frequent turnover, particularly since positions are plentiful at Rockaway Beach during the summer.

*The surge and strain  
of laundering leave the  
Pequot fabric impregnable!  
Strong and sturdy these  
sheets emerge from innum-  
erable washings — strong,  
sturdy, after months of wear!*

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in the very fabric, is the  
Pequot durability that makes  
them wear, wear and wear!*

*Pequot is America's most  
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St. Francis Hospital, Wilmington, Del.  
Architect, Frank R. Watson, Philadelphia, Pa.

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Furthermore, the overtime pay that would then be necessary in the summer, even with a six-day week, would equalize any saving that was made during the rest of the year.

The laundry is operated by one man and two women, whose hours are from 7:30 a.m. to 5 p.m. On Saturdays they are permitted to leave as soon as the laundry is empty of work and is cleaned. This is usually about 2 o'clock in the afternoon. The duties of the three workers are divided as follows: The laundry man operates the washer and the extractor and mixes the soap and starch. He is responsible for the care of the laundry machinery. He collects the soiled linen in hamper bags from the base of the chute and delivers the clean, sorted linen to the linen supply room. His salary is \$70 a month with maintenance. The laundry women sort, operate the flat-work ironer and do hand ironing and fold the clean linen. Their salary is \$15 a week each without maintenance.

Approximately 25,000 pieces are handled in the laundry each month. The absence of an out-patient department greatly lessens the monthly total as compared to hospitals that maintain clinics. In addition to the regular summer increase in patients, the ambulance service, which receives but few calls during the winter, averages about fifteen to twenty calls each week end during the summer.

The weekly laundry includes table and bed linen, towels and other necessary linens for patients, the superintendent, the interns, the nurses and the help as well as the uniforms for the interns and the nurses. The uniforms for special nurses are not done at present, although the idea of laundering them at a nominal charge is under consideration. Patients' personal clothing is not accepted because the hospital does not care to assume this responsibility.

The hospital linens are washed and ironed daily. The linen of the superintendent, interns, nurses and help is washed Tuesday afternoons and ironed Wednesday, Thursday and Friday afternoons after the hospital linens are laundered. This work includes from ninety to a hundred uniforms a week. It is well to note in this connection that Rockaway Beach Hospital has no nurses' training school.

### How the Linens Are Handled

The soiled linens are sorted by the laundry man. They are classified as soiled, dirty or stained and are washed in separate lots. The pieces are all placed in net bags before they are washed. This not only facilitates handling but keeps the clothes from being pulled and torn when they are taken from the washer. Blankets and curtains are laundered in the same manner. Linens from contagious cases are disinfected in the utility rooms by immersion in chemicals before they are sent to the laundry. This process is in charge of the floor nurse. Soiled linen is collected in canvas hamper bags in the utility rooms. These bags are tied and dropped down a tin-lined linen chute, somewhat like a dumb-waiter shaft. This chute terminates in the basement of the original building in a room near the ramp to the laundry. These bags are collected by the laundry man.

In the late afternoon the head nurse of each floor sends her requisition for the following day to the linen room. The supply of clean linen, thus requisitioned, is delivered by the porter of each floor every morning. The linens are kept in a cabinet in the nurses' alcove. It has been found unnecessary to lock the cabinets as there is always a nurse on duty at each station. Infants' linens are delivered to the nursery twice a day.

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The clean linens for daily use and the surplus are stored in the combined linen and sewing room situated conveniently near the ramp to the laundry. This room is in charge of a seamstress who mends the linens, marks all new linen with the name of the hospital with an indelible stamp, fills and checks the daily requisitions and gives the supply to the floor porters. The seamstress receives \$55 a month, with meals. She sleeps out but is at the hospital from 8 a.m. to 5 p.m. This expense is not included in the cost of laundry operation, since a seamstress was employed when the work was sent to the commercial laundry. The housekeeper checks the linen twice a year for necessary replacements.

The major factors involved in establishing a hospital laundry are common to all hospitals, though in varying degrees of importance. The first consideration is usually one of expense; the second, available sites; and the third, efficient and economical administration.

Although each of these factors must be considered separately they are closely related and affect each other materially. The amount of money available will determine whether the laundry will consist of a room or basement converted to that use, an extension or a new building. It will also determine the type of construction and equipment. The available sites will also determine the amount of space to be devoted to a laundry. These phases in turn affect the efficiency of administration and economy of operation.

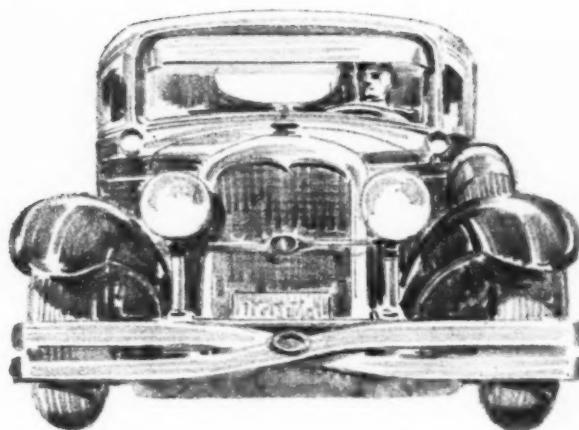
#### *Choosing a Place for the Laundry*

Certain factors govern the location and construction of the laundry and should be seriously considered. These are: heat and noise with regard to patients; nearness to the power plant to prevent the necessity of carrying pipe lines a great distance, thus increasing the installation expense and also that of operation through the loss of heat by radiation in transit; adequate light, ventilation and working space for the help; standard equipment of the type required by the heating system or by local conditions, such as the use of oil, gas, steam or electrically operated machines; water softener attachments.

The laundry is frequently placed in the basement of a hospital or service building. This is a most undesirable location. The heat and noise emanating from the laundry are carried to the floor or floors above. Large quantities of dirt almost invariably blow in the windows sometimes making rewashing of the clothes necessary. And the unpleasant working conditions result in a continual turnover in help. In an existing hospital, where the basement is the only available space, it may be expedient to establish a laundry even under these adverse conditions. This location is occasionally selected in planning new hospital buildings but is, as a rule, soon a matter of regret.

The details of administration for economy and efficiency of operation must be adjusted by each superintendent, since such details are determined by conditions peculiar to the individual institution. These factors cover a wide range of subjects, such as the local accepted standard of working hours and wages, the number of employees, the division of duties and responsibilities, the method of linen collection, distribution and check, the linen to be included for the personnel and the patients, the charges if patients' personal laundry is accepted and the method of handling it.

As in the case of the Rockaway Beach Hospital, we feel that practically all hospitals, barring unfavorable local conditions, would be well repaid for the initial expenditure and would find the operation of a hospital laundry a distinct annual saving.



## Who said *style is always expensive?*

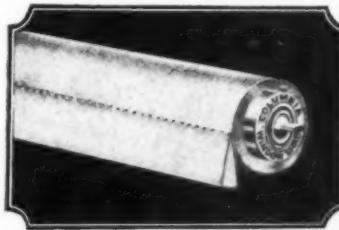
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